Assistment

The ASSISTment System **assists** students in learning and gives teachers **assessments** of their students' progress.

A collaboration amongst:

Worcester Polytechnic Institute

Carnegie Mellon University

Worcester Public Schools

Sponsors:

National Science Foundation

United States Department of Education

The United States Army

The Spencer Foundation

Office of Naval Research

The Massachusetts Technology Transfer Center

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Introduction

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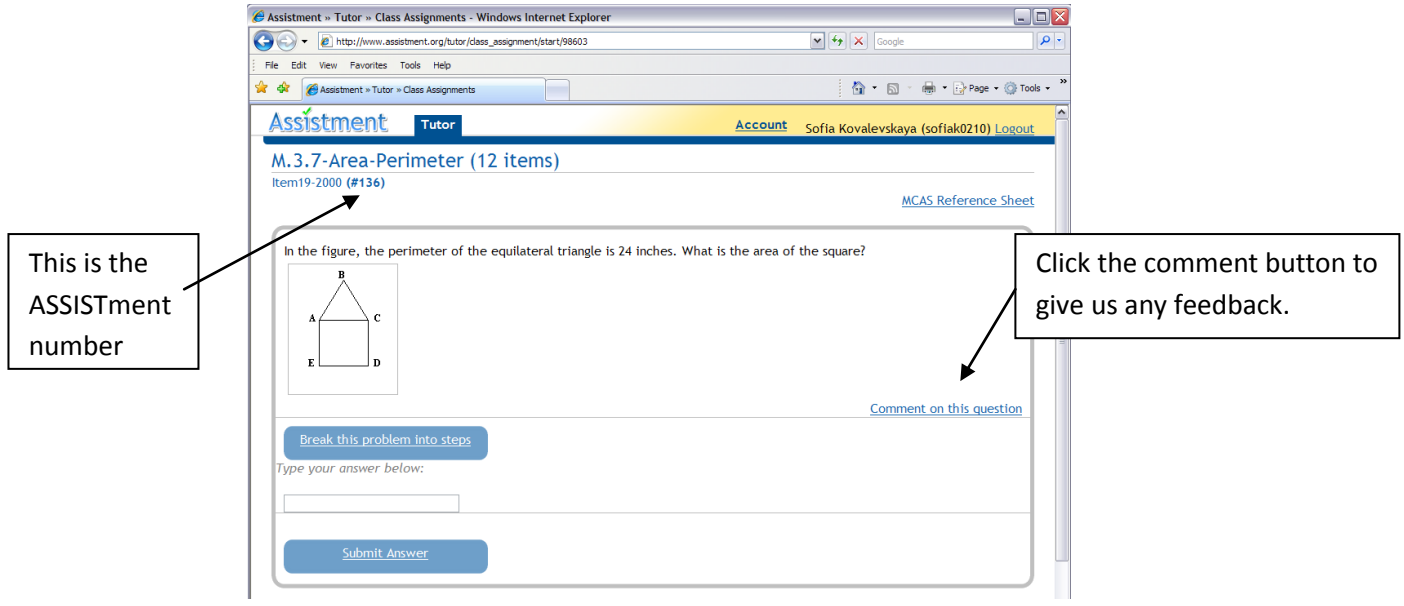
Letter to Teachers

Dear Teacher,

Welcome to the ASSISTment System. We have designed this binder to help you gain a clearer understanding of the content and to provide written instructions on how to get yourself and your students using the system. For more up to date details on the ASSISTment System, please visit our information webpage at http://teacherwiki.assistment.org. You can use the Fact Sheet on the next page to share information on the System with your administration, other teachers, or parents. Finally, in this section, we have added a few examples of individual ASSISTment questions with the tutoring visible. We hope that this will give you a clear understanding of the structure of an ASSISTment.

In this binder, we have instructions for accessing student data and setting up teacher and student accounts. We have also included a section on using the ASSISTment System that gives a few examples of how the system has been used by teachers. We have created the ASSISTment System as a tool for teachers to use. Each school has its own unique set of needs and goals that can be facilitated by the ASSISTment System. The ideas provided here are just the tip of the iceberg on how you can use the system to improve student learning at your school.

If you have any comments or questions we would love to hear from you. You can contact us by e-mail at assistment-support@wpi.edu. If you have comments on an individual ASSISTment question be sure to include the ASSISTment number or use the comments on the question button within the system.


This is the ASSISTment number
Click the comment button to give us any feedback.
Assistment » Tutor » Class Assignments - Windows Internet Explorer
Assistment
Tutor
Account
Sofia Kovalevskaya (sofiak0210) Logout
M.3.7-Area-Perimeter (12 items)
Item19-2000 (#136)
MCAS Reference Sheet
In the figure, the perimeter of the equilateral triangle is 24 inches. What is the area of the square?
Comment on this question
Break this problem into steps
Type your answer below:
Submit Answer

We look forward to hearing about how you use the system.

Sincerely,

Neil Heffernan

Co-creator & Associate Professor
of Computer Science at WPI

Cristina Heffernan

Co-creator & Chief Professional
Development Coordinator

Fact Sheet on the ASSISTment Project

http://www.assistment.org

- **What is the ASSISTment System?** The ASSISTment System is a web-based tutoring program for 4th to 10th grade mathematics. The word "ASSISTment" blends tutoring "assistance" with "assessment" reporting to teachers. This gives teachers fine grained reporting on roughly 90 skills that the system tracks per grade level. More generally, the system is a great tool to help achieve the US Dept of Education's goal of turning education research into an evidence-based science, as the system is able to do large-scale studies of what constitute effective educational practice.
- **What is the goal?** No Child Left Behind legislation urges schools and teachers to use formative assessment information to inform their classroom instruction. The dilemma is that every minute spent testing is a minute taken away from instruction. The ASSISTment System solves this problem by tutoring students on items they get wrong, thus providing integrated assisting of students while they are being assessed. Teachers can use this detailed assessment data to adjust their classroom instruction and pacing.
- **How is it used?** Math teachers assign problem sets to their students to do on the computer and students are tutored on the items they get wrong. Teachers log on to the System and study detailed reports about their students' difficulties and strengths. Teachers can use content already developed at WPI or write their own content.
- **Who is using it?** In 2007-08 just over 4,000 students used the system mostly near Worcester, MA and Pittsburgh, PA. We have scalability results that suggest we should be able to scale up nicely with the 11 servers we have in place so that we can support every classroom in the state of Massachusetts.
- **What do we know about its effectiveness?**
  1. What do we know about its effectiveness as an assessment system? In Razzaq et al. (2005)[1] we showed we can predict a student's MCAS score with a high degree of reliability.
  2. What do we know about its effectiveness as an instructional assisting system? In the same Razzaq et al. (2005), we showed that students were reliably learning from the ASSISTment system.
  3. What do we know about the effectiveness of the system to study the learning that is taking place outside of class? We have found that the ASSISTment system can track individual skills being learned inside of classrooms, thus opening the door to using the system to study any classroom intervention, as teachers like to use the system with their students.
- **Who built the ASSISTments?** In 2003, Neil Heffernan and Ken Koedinger conceived of the idea of the ASSISTment System and received funding from the US Dept of Education to get started. This idea was successful, in part, due to prior funding from the Office of Naval Research to build tools to make it more cost effective to build intelligent tutoring systems. In 2004, Heffernan was funded by a National Science Foundation CAREER grant to extend the ASSISTment System from 8th grade up to 10th grade. Over 30 students at WPI and several full time staff at CMU helped make it all happen. Contact Professor Neil Heffernan at WPI 508-831-5569 for more information at nth@wpi.edu.

[1] This paper and dozens of others can be found at the publications page of our website at www.assistment.org/about/publications

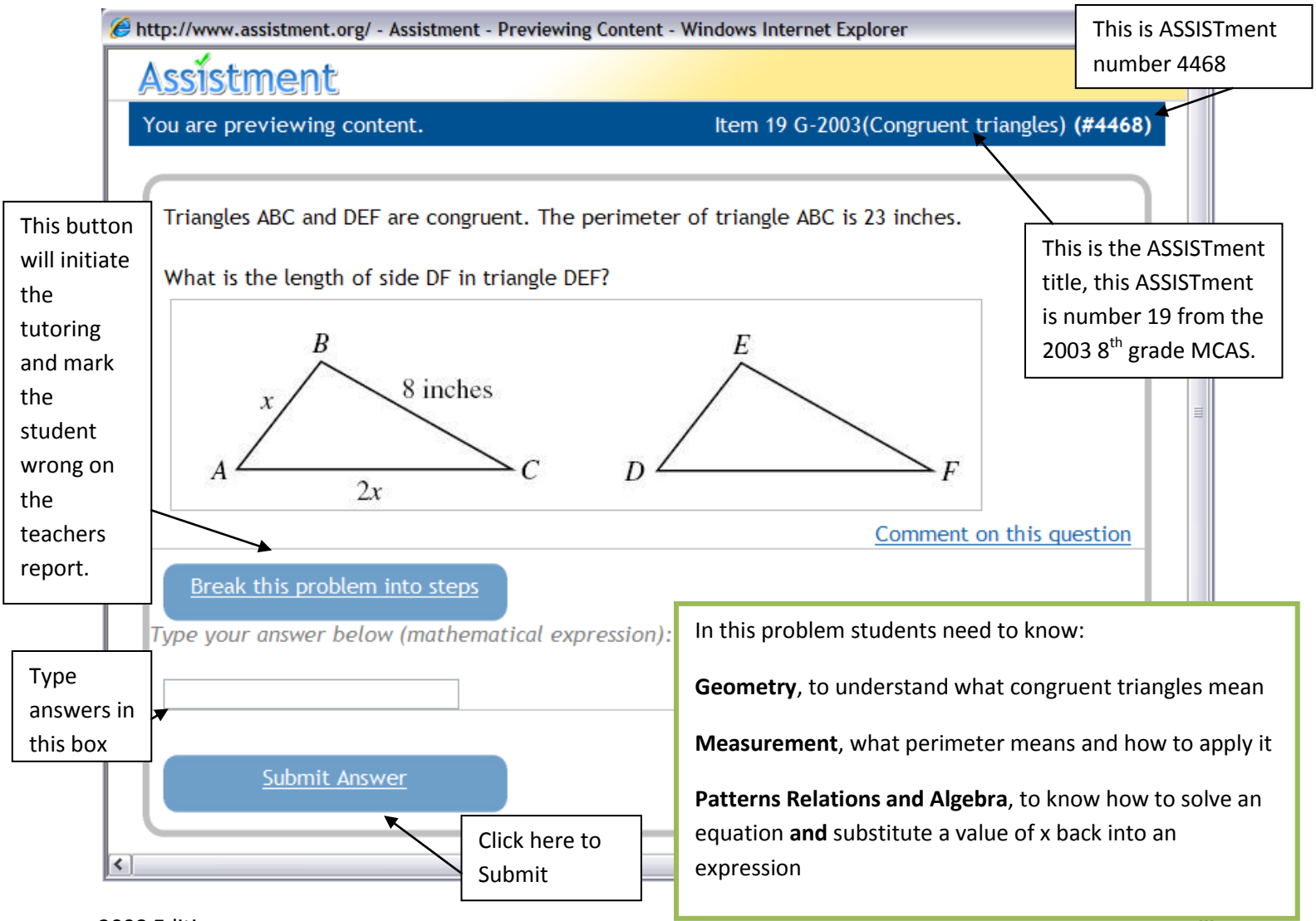
Sample ASSISTment Problems

ASSISTment #4686

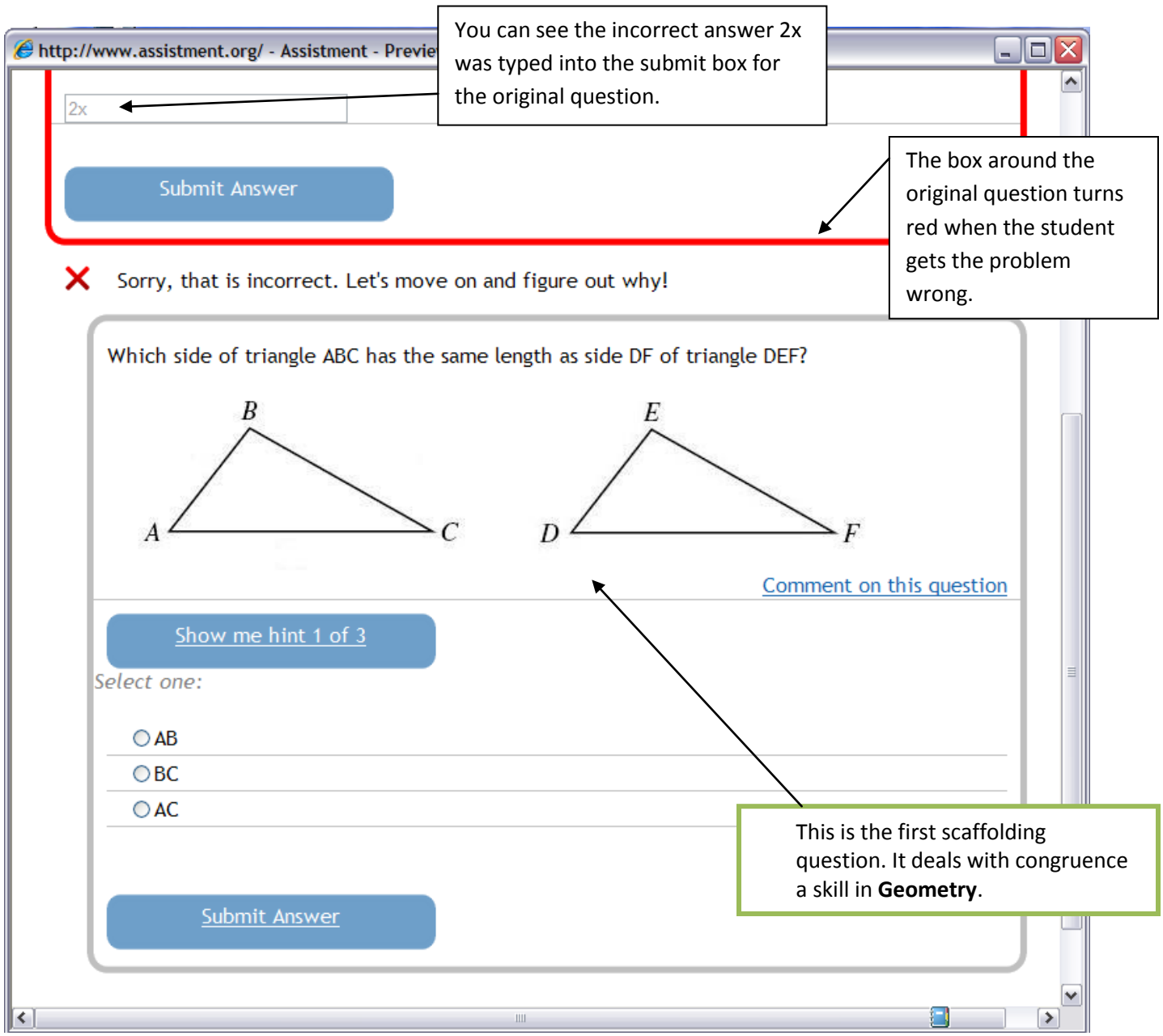
This is an ASSISTment as it shows up for a student. The ASSISTment number is in the upper right hand corner. It is used as a reference through the system and is important to keep track of. Next to the number is the name. If the ASSISTment question came from the MCAS test, details of its origin will be shown in the name.

This ASSISTment is number 4468 and it was number 19 on the 2003 8th grade MCAS. The student types their answer to the problem in the box at the bottom and then clicks on "Submit Answer." If it is correct it will be marked correct in the teacher reports and they will go on to then next problem. If not, the problem will be marked incorrect in the teachers report and be broken down into steps for the student. If they have no idea what to do they can go directly to "Break this problem into steps" but if they do this, it will be marked **incorrect** in the teacher's reports. On the following pages, we will give you a "tour" of what the student sees when they either get the problem wrong or click on "Break this problem into steps.

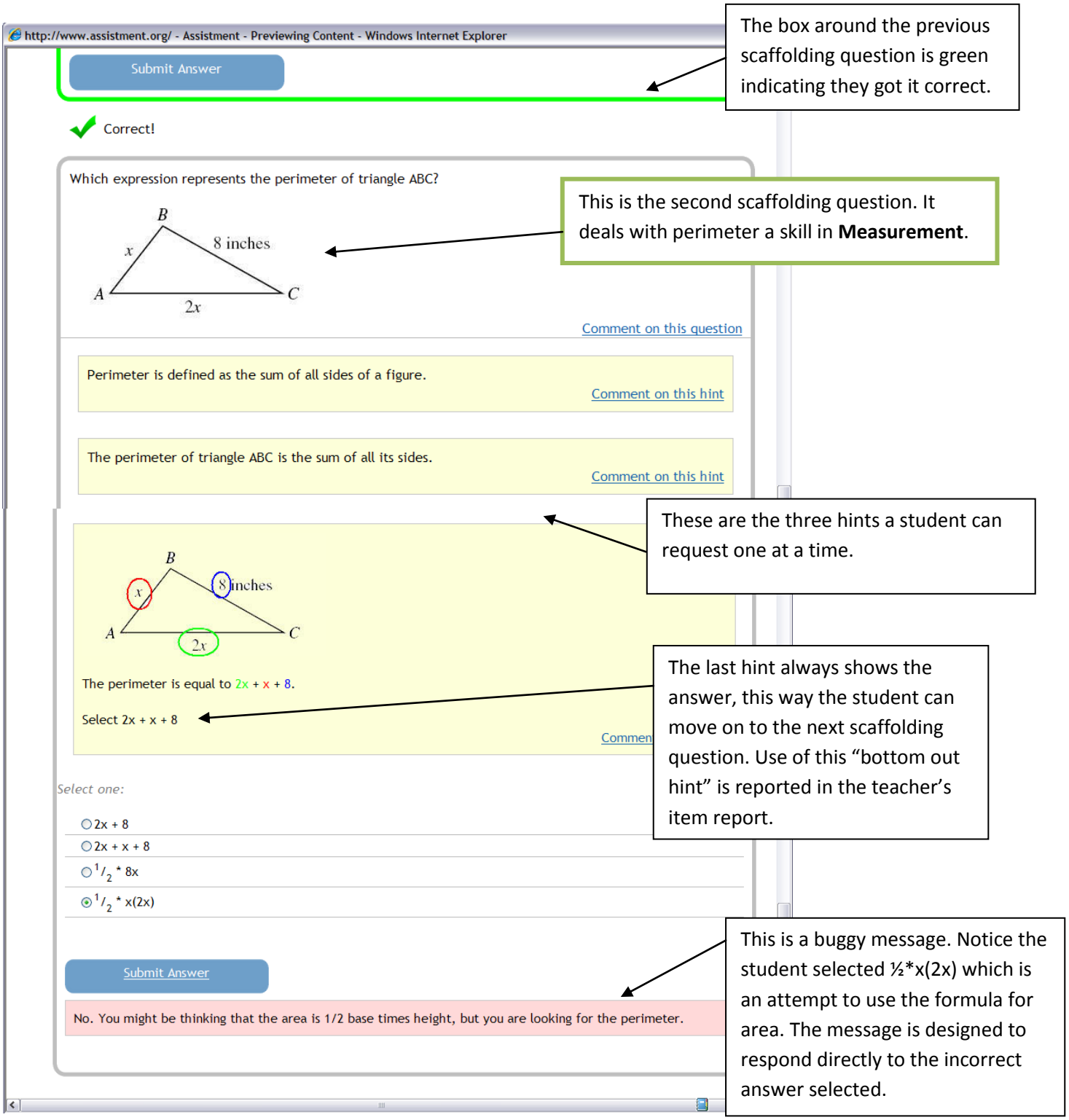
This problem also demonstrates how we tag ASSISTment main problems and their scaffolding problems to help assess what skills students are lacking. The State of Massachusetts tagged this problem as a **geometry** problem because it involves congruent triangles. However, with close examination one will notice that a student needs to understand perimeter (a **measurement** skill), equation solving and substitution (both skills in **patterns**, **relations and algebra)**, and congruence (a **geometry** skill). As you see the scaffolding questions for these problems, you will see how each one addresses one of the skills involved in the main problem.

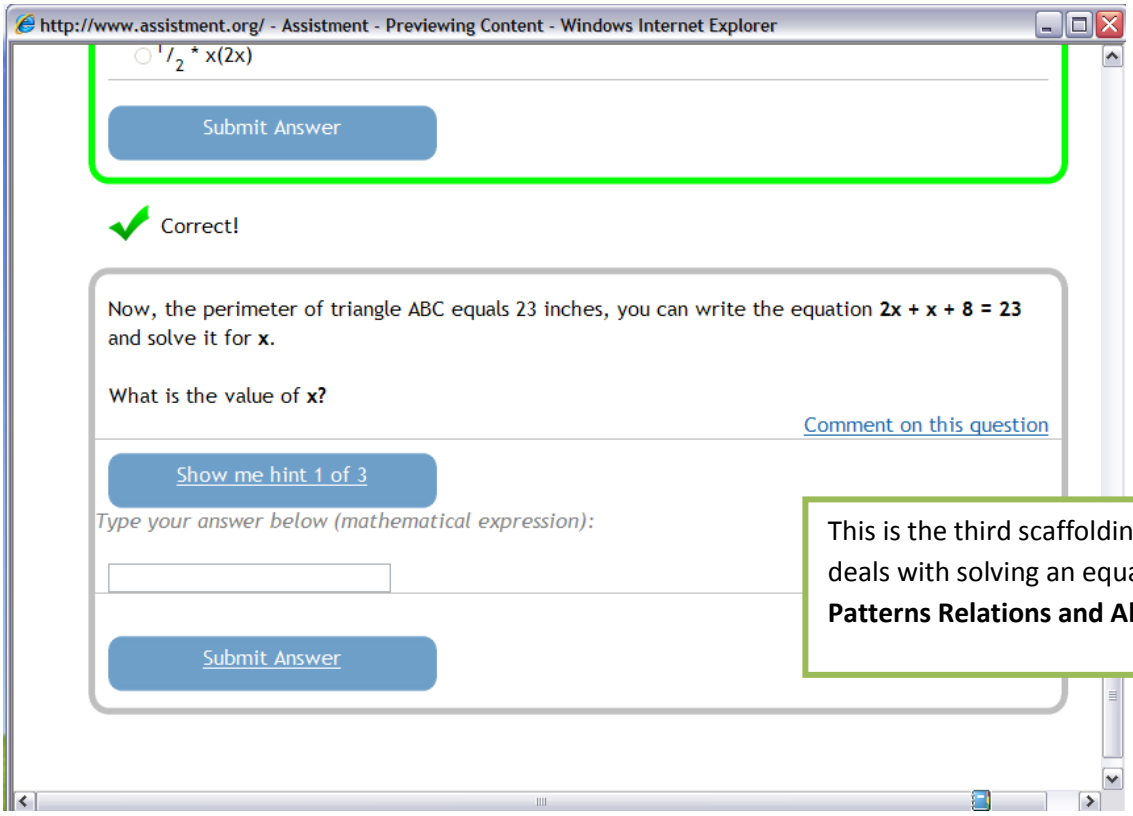

http://www.assistment.org/ - Assistment - Previewing Content - Windows Internet Explorer
Assistment
You are previewing content.
Item 19 G-2003(Congruent triangles) (#4468)
Triangles ABC and DEF are congruent. The perimeter of triangle ABC is 23 inches.
What is the length of side DF in triangle DEF?
B
x
8 inches
A
C
2x
E
D
F
Comment on this question
Break this problem into steps
Type your answer below (mathematical expression):
Submit Answer
This is ASSISTment number 4468
This is the ASSISTment title, this ASSISTment is number 19 from the 2003 8th grade MCAS.
This button will initiate the tutoring and mark the student wrong on the teachers report.
Type answers in this box
Click here to Submit
In this problem students need to know:
Geometry, to understand what congruent triangles mean
Measurement, what perimeter means and how to apply it
Patterns Relations and Algebra, to know how to solve an equation and substitute a value of x back into an expression

If the student gets the problem wrong, the system breaks the problem into steps. In this example, you can see that the student submitted the wrong answer, 2x, so the original question box turns red and they are told "Sorry, that is incorrect. Let's move on and figure out why!" If the student has problems with the first scaffolding question they can click on "Show me hint 1 of 3" to see the first of three hints. We have shown all the hints for the second scaffolding question as an example. Note that the last hint always gives the answer.

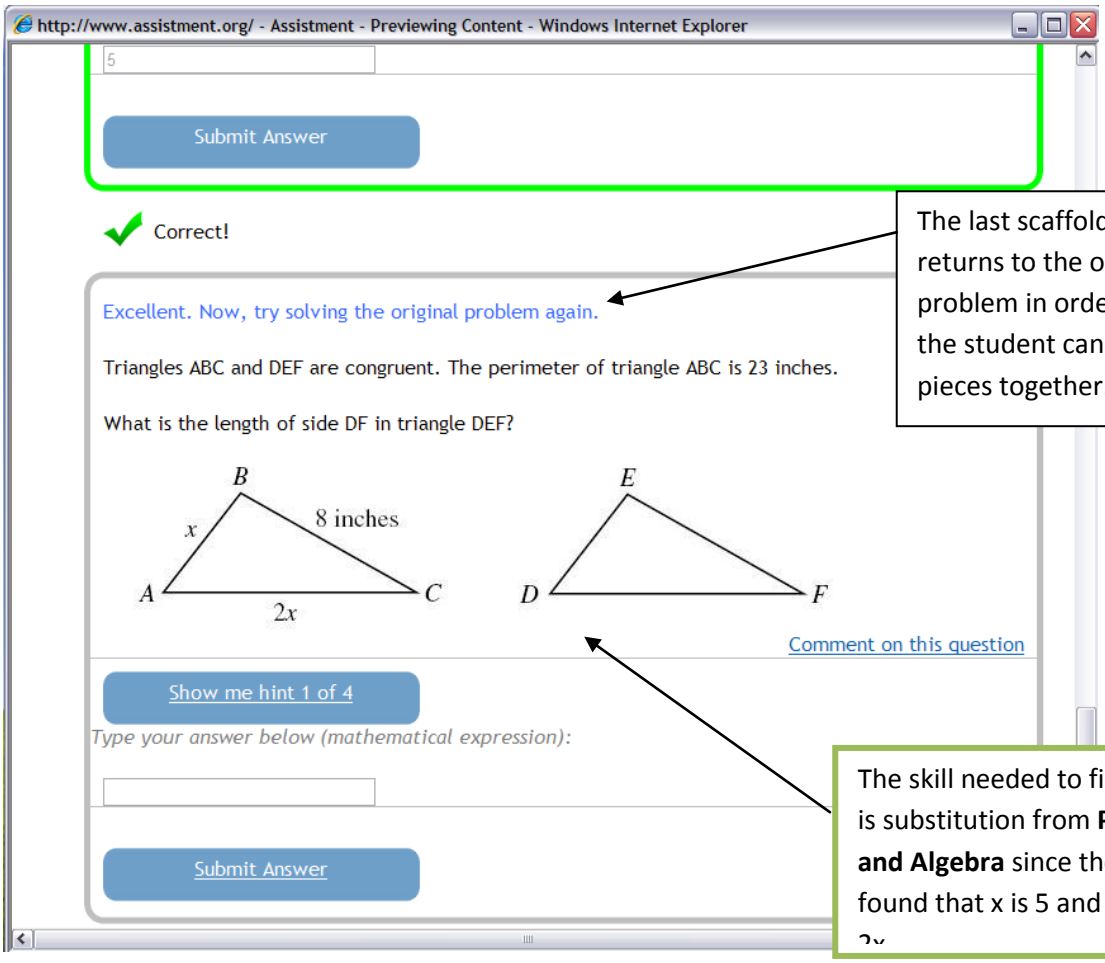

You can see the incorrect answer 2x was typed into the submit box for the original question.
The box around the original question turns red when the student gets the problem wrong.
This is the first scaffolding question. It deals with congruence a skill in **Geometry**.
http://www.assistment.org/ - Assistment - Previe
2x
Submit Answer
Sorry, that is incorrect. Let's move on and figure out why!
Which side of triangle ABC has the same length as side DF of triangle DEF?
B
A
C
E
D
F
Comment on this question
Show me hint 1 of 3
Select one:
AB
BC
AC
Submit Answer

Once the student gets the first scaffolding question right, they move on to the next one automatically. In the last scaffolding question, the student is asked the original question again. Once again, if they cannot get the correct answer they can ask for hints to help move them through the problem.


http://www.assistment.org/ - Assistment - Previewing Content - Windows Internet Explorer
Submit Answer
Correct!
Which expression represents the perimeter of triangle ABC?
B
x
8 inches
A
C
2x
Comment on this question
Perimeter is defined as the sum of all sides of a figure.
Comment on this hint
The perimeter of triangle ABC is the sum of all its sides.
Comment on this hint
The perimeter is equal to 2x + x + 8.
Select 2x + x + 8
Select one:
2x + 8
2x + x + 8
1/2 * 8x
1/2 * x(2x)
Submit Answer
No. You might be thinking that the area is 1/2 base times height, but you are looking for the perimeter.
The box around the previous scaffolding question is green indicating they got it correct.
This is the second scaffolding question. It deals with perimeter a skill in Measurement.
These are the three hints a student can request one at a time.
The last hint always shows the answer, this way the student can move on to the next scaffolding question. Use of this "bottom out hint" is reported in the teacher's item report.
This is a buggy message. Notice the student selected ½*x(2x) which is an attempt to use the formula for area. The message is designed to respond directly to the incorrect answer selected.


http://www.assistment.org/ - Assistment - Previewing Content - Windows Internet Explorer
1/2 * x(2x)
Submit Answer
Correct!
Now, the perimeter of triangle ABC equals 23 inches, you can write the equation 2x + x + 8 = 23 and solve it for x.
What is the value of x?
Comment on this question
Show me hint 1 of 3
Type your answer below (mathematical expression):
Submit Answer

This is the third scaffolding question. It deals with solving an equation a skill in **Patterns Relations and Algebra**.

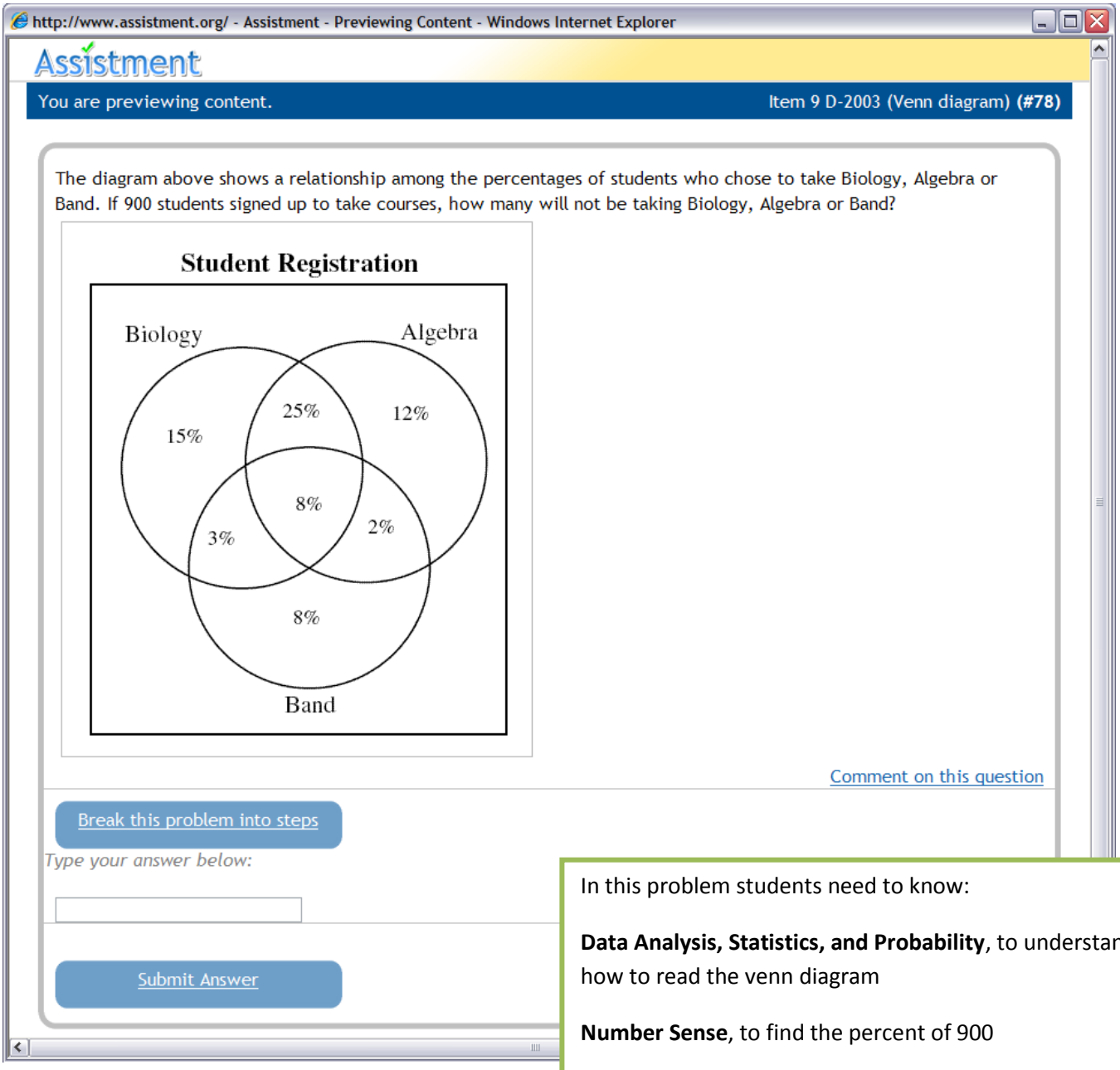


The last scaffolding question returns to the original problem in order to see if the student can put all the pieces together.

The skill needed to find the final answer is substitution from **Patterns Relations and Algebra** since the student just found that x is 5 and now needs to find 2x

ASSISTment #78

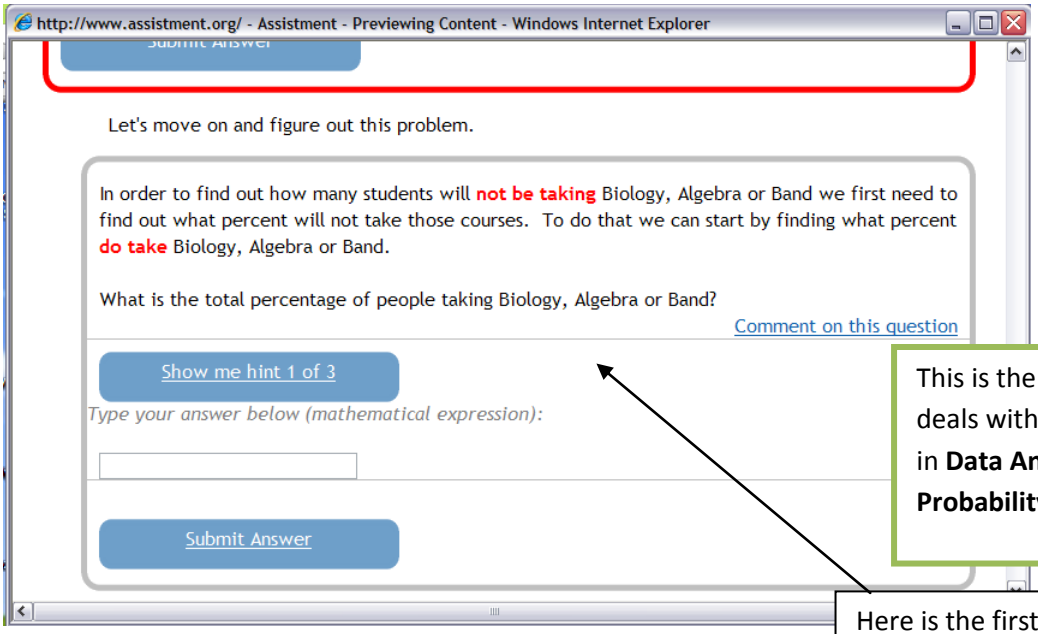
This example ASSISTment is number 78 and is problem number 9 from the 2003 MCAS test. The reporting category on the MCAS was **Data Analysis, Statistics and Probability**, however; with closer inspection it can be seen that it is also the skill of finding the percent of a number, a skill from the **Number Sense and Operation** strand.


http://www.assistment.org/ - Assistment - Previewing Content - Windows Internet Explorer
Assistment
You are previewing content.
Item 9 D-2003 (Venn diagram) (#78)
The diagram above shows a relationship among the percentages of students who chose to take Biology, Algebra or Band. If 900 students signed up to take courses, how many will not be taking Biology, Algebra or Band?
Student Registration
Biology
Algebra
Band
15%
25%
12%
8%
3%
2%
8%
Comment on this question
Break this problem into steps
Type your answer below:
Submit Answer

In this problem students need to know:

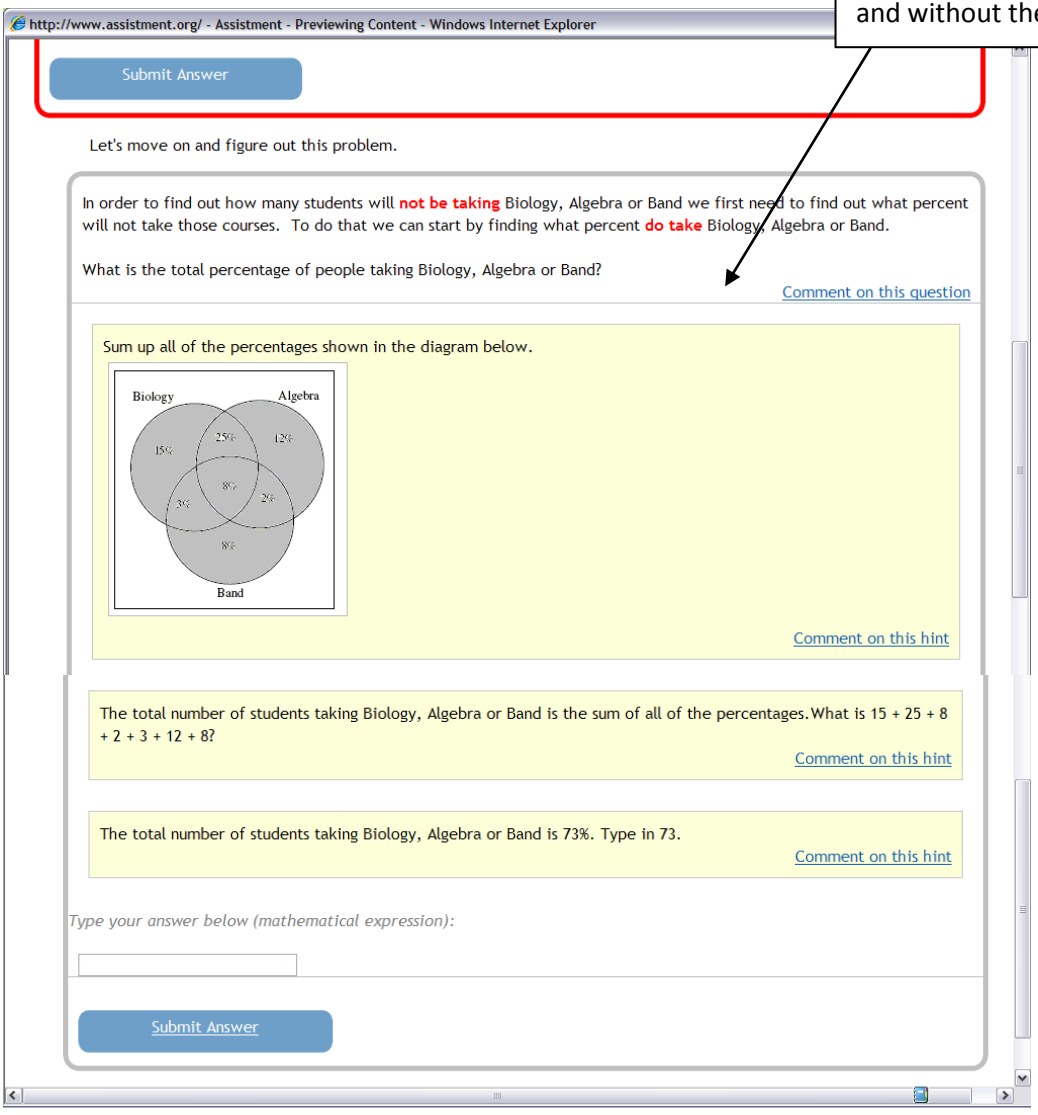
Data Analysis, Statistics, and Probability, to understand how to read the venn diagram

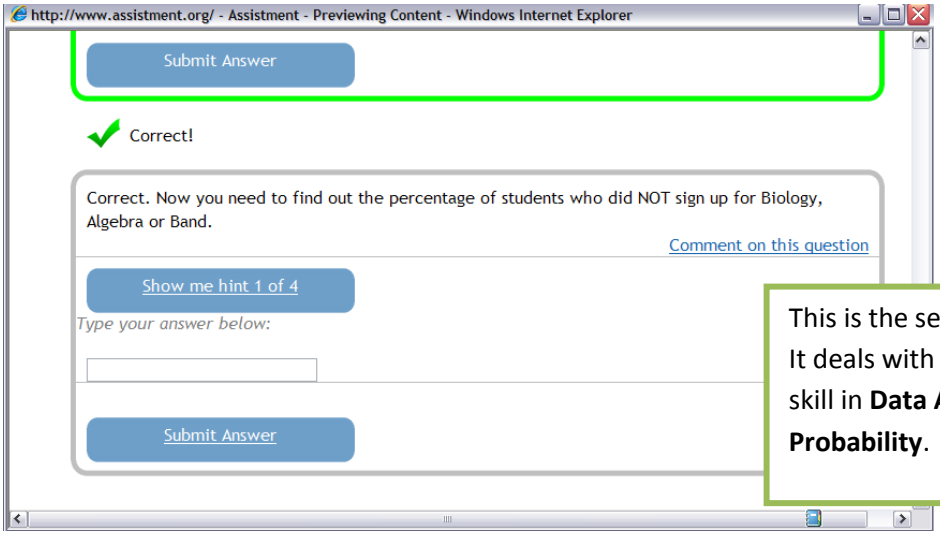
Number Sense, to find the percent of 900


http://www.assistment.org/ - Assistment - Previewing Content - Windows Internet Explorer
Let's move on and figure out this problem.
In order to find out how many students will not be taking Biology, Algebra or Band we first need to find out what percent will not take those courses. To do that we can start by finding what percent do take Biology, Algebra or Band.
What is the total percentage of people taking Biology, Algebra or Band?
Comment on this question
Show me hint 1 of 3
Type your answer below (mathematical expression):
Submit Answer

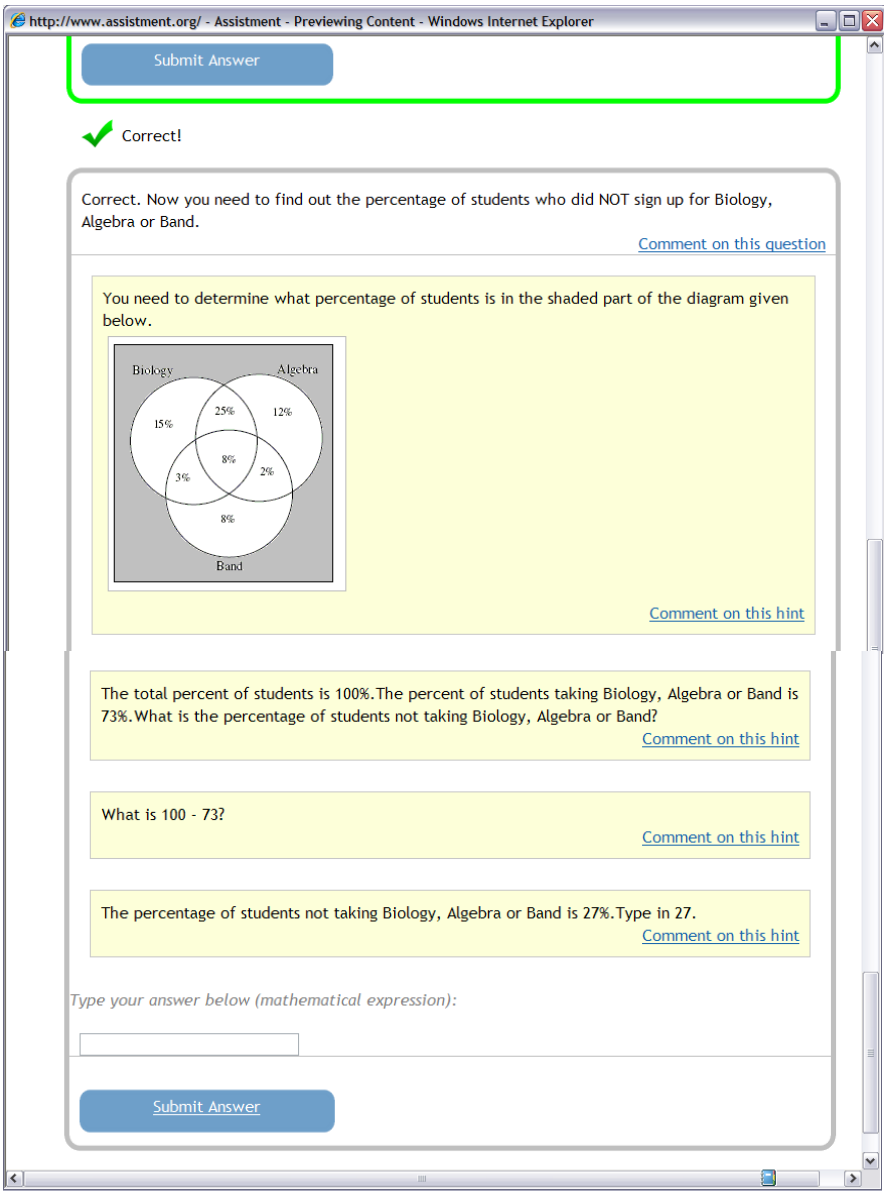
This is the first scaffolding question. It deals with reading a venn diagram a skill in **Data Analysis, Statistics, and Probability**.

Here is the first scaffolding question with and without the hints opened up.


http://www.assistment.org/ - Assistment - Previewing Content - Windows Internet Explorer
Submit Answer
Let's move on and figure out this problem.
In order to find out how many students will not be taking Biology, Algebra or Band we first need to find out what percent will not take those courses. To do that we can start by finding what percent do take Biology, Algebra or Band.
What is the total percentage of people taking Biology, Algebra or Band?
Comment on this question
Sum up all of the percentages shown in the diagram below.
Biology
Algebra
Band
15%
25%
12%
8%
3%
2%
8%
Comment on this hint
The total number of students taking Biology, Algebra or Band is the sum of all of the percentages. What is 15 + 25 + 8 + 2 + 3 + 12 + 8?
Comment on this hint
The total number of students taking Biology, Algebra or Band is 73%. Type in 73.
Comment on this hint
Type your answer below (mathematical expression):
Submit Answer


http://www.assistment.org/ - Assistment - Previewing Content - Windows Internet Explorer
Submit Answer
Correct!
Correct. Now you need to find out the percentage of students who did NOT sign up for Biology, Algebra or Band.
Comment on this question
Show me hint 1 of 4
Type your answer below:
Submit Answer

This is the second scaffolding question. It deals with reading a venn diagram a skill in **Data Analysis, Statistics, and Probability**.

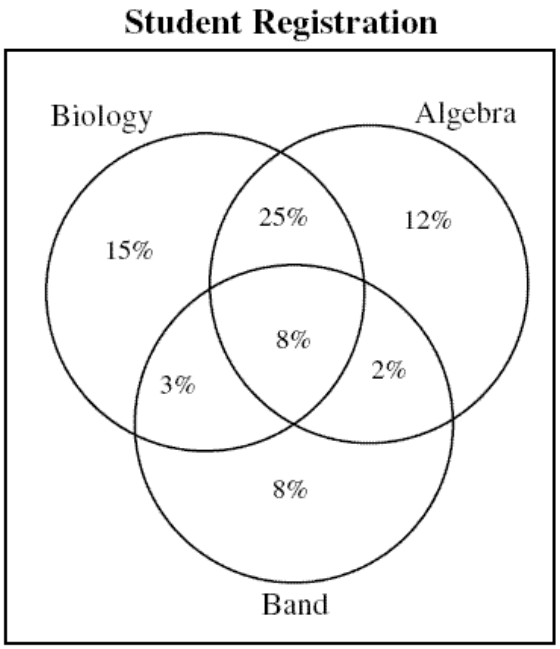

http://www.assistment.org/ - Assistment - Previewing Content - Windows Internet Explorer
Submit Answer
Correct!
Correct. Now you need to find out the percentage of students who did NOT sign up for Biology, Algebra or Band.
Comment on this question
You need to determine what percentage of students is in the shaded part of the diagram given below.
Biology
Algebra
Band
15%
25%
12%
8%
3%
2%
8%
Comment on this hint
The total percent of students is 100%.The percent of students taking Biology, Algebra or Band is 73%.What is the percentage of students not taking Biology, Algebra or Band?
Comment on this hint
What is 100 - 73?
Comment on this hint
The percentage of students not taking Biology, Algebra or Band is 27%.Type in 27.
Comment on this hint
Type your answer below (mathematical expression):
Submit Answer

http://www.assistment.org/ - Assistment - Previewing Content - Windows Internet Explorer

Correct!

Now you are ready to try the original problem again.

The diagram above shows a relationship among the percentages of students who chose to take Biology, Algebra or Band. If 900 students signed up to take courses, how many will not be taking Biology, Algebra or Band?



This is the third and final scaffolding question. In order to solve this last step a student must find 27% percent of 900 this is a skill from the **Number Sense** strand.

Comment on this question

Show me hint 1 of 4

Type your answer below (mathematical expression):

Submit Answer

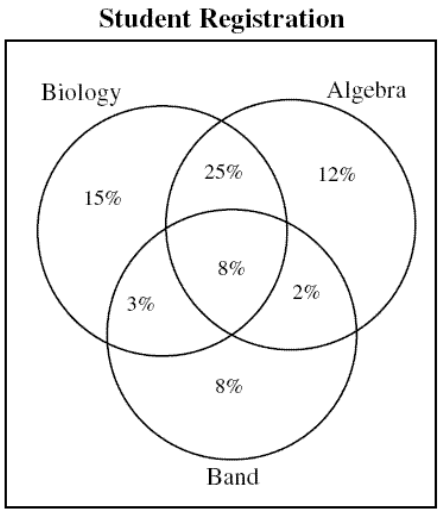
http://www.assistment.org/ - Assistment - Previewing Content - Windows Internet Explorer

Submit Answer

Correct!

Now you are ready to try the original problem again.

The diagram above shows a relationship among the percentages of students who chose to take Biology, Algebra or Band. If 900 students signed up to take courses, how many will not be taking Biology, Algebra or Band?



Comment on this question

Remember we found that 27% of the students will not be taking Biology, Algebra or Band.
Comment on this hint

Also you know from the text that there are 900 students signed up to take courses.
Comment on this hint

So you are looking for

27% of 900 or
.27 * 900
Comment on this hint

900 * 0.27 = 243
There are 243 students not taking Biology, Algebra or Band.
Type in 243.
Comment on this hint

Type your answer below (mathematical expression):

Submit Answer

Getting Started

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Creating a new district xii
Creating a user xiii
Creating a Class xiv
Selecting the Curriculum xvi
Getting Started as a Students xvii
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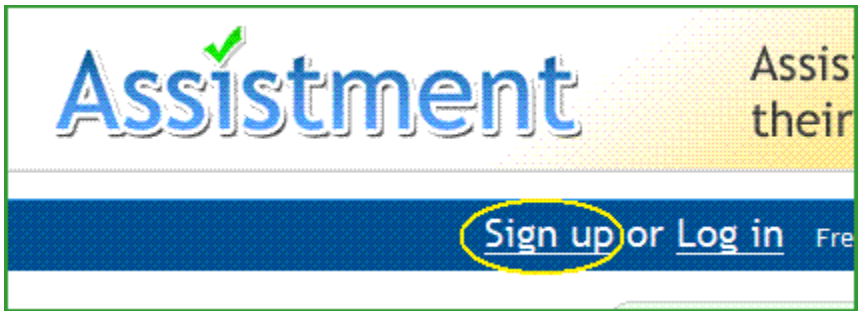
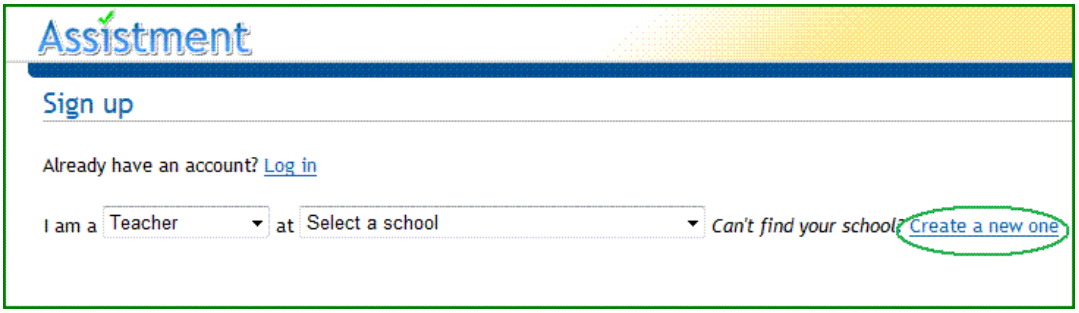
Getting Started as a Teacher

Creating a Teacher Account

1. Open your web browser and navigate to the ASSISTment System main page (www.assistment.org).
2. Click on "Sign up" at the top of the page.



3. Select "Teacher" from the first dropdown menu, and the name of your school from the second.
4. If your school is not on the list, you can add it to the list by clicking the "Create a new one" link.

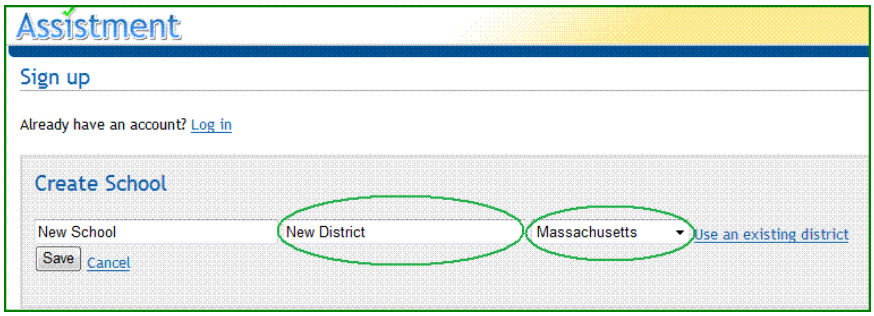


Creating a new school

1. Type in the name of your school (not the district name).
2. Select your district from the list.
   - If your district is not on the list, you can add it to the list by clicking the "Can't find your district?" link.

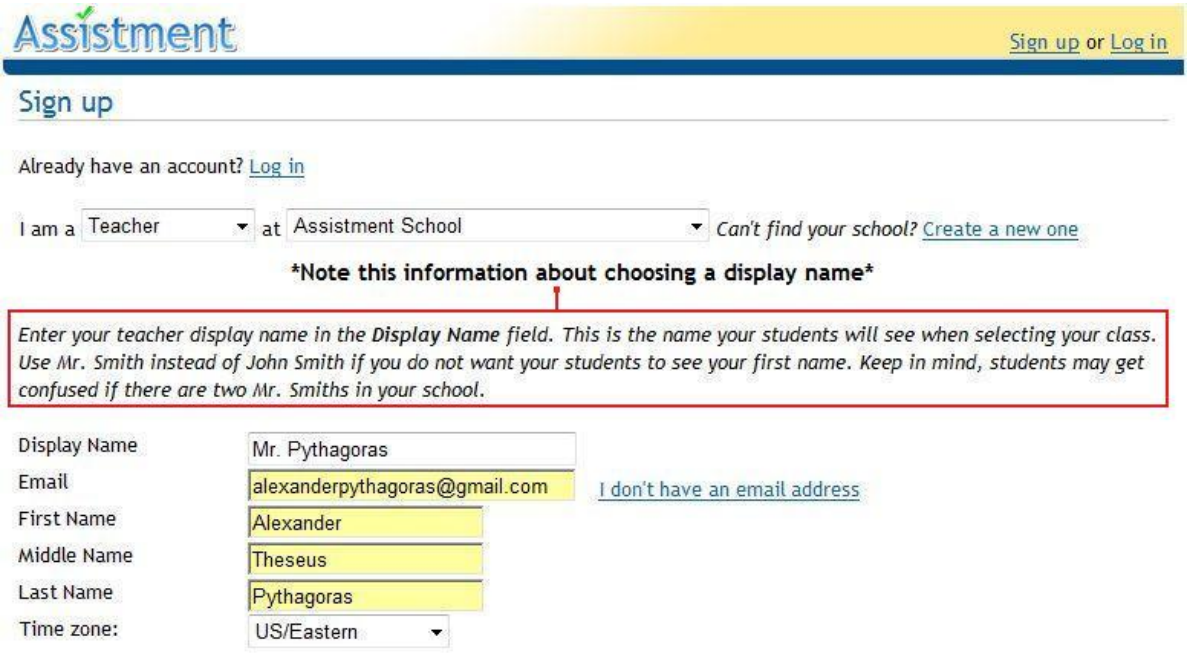
Creating a new district

1. Fill in the district name in the middle box and select your state from the dropdown box.
2. Select "save."



3. Now that your school and district are chosen, select your school from the dropdown list. You may need to click on refresh (F5) to load the new school information onto your current page.

Creating a user

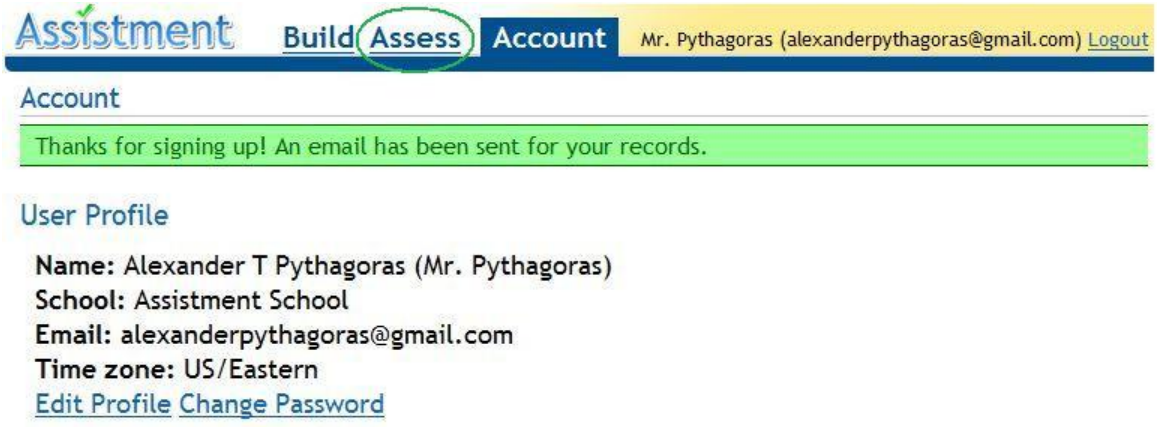

Assistment
Sign up or Log in
Sign up
Already have an account? Log in
I am a Teacher at Assistment School Can't find your school? Create a new one
Note this information about choosing a display name
Enter your teacher display name in the Display Name field. This is the name your students will see when selecting your class. Use Mr. Smith instead of John Smith if you do not want your students to see your first name. Keep in mind, students may get confused if there are two Mr. Smiths in your school.
Display Name Mr. Pythagoras
Email alexanderpythagoras@gmail.com I don't have an email address
First Name Alexander
Middle Name Theseus
Last Name Pythagoras
Time zone: US/Eastern

1. Enter the display name you wish to use.
    - This is the name that your students will see when selecting your class. Use Mr. Smith instead of John Smith if you do not want your students to see your first name. Keep in mind, students may get confused if there are two Mr. Smiths in your school.
2. Enter the e-mail address you wish to use.
    - This e-mail will be used for password resets.
    - It is recommended that you use your school e-mail address, if available.
    - If you do not have an e-mail address, select "I don't have an email address" which will take you to a page to create a free e-mail account with Google mail.
3. Enter your first name, middle name, and last name.
    - If you do not have a middle name, leave that field blank.
4. Select your time zone from the dropdown list.

Enter a password into the Password field. Write this password down so you don't forget it when you want to log back into Assistment. Repeat this password in the Confirm Password field.
Password ••••••••
Confirm Password ••••••••

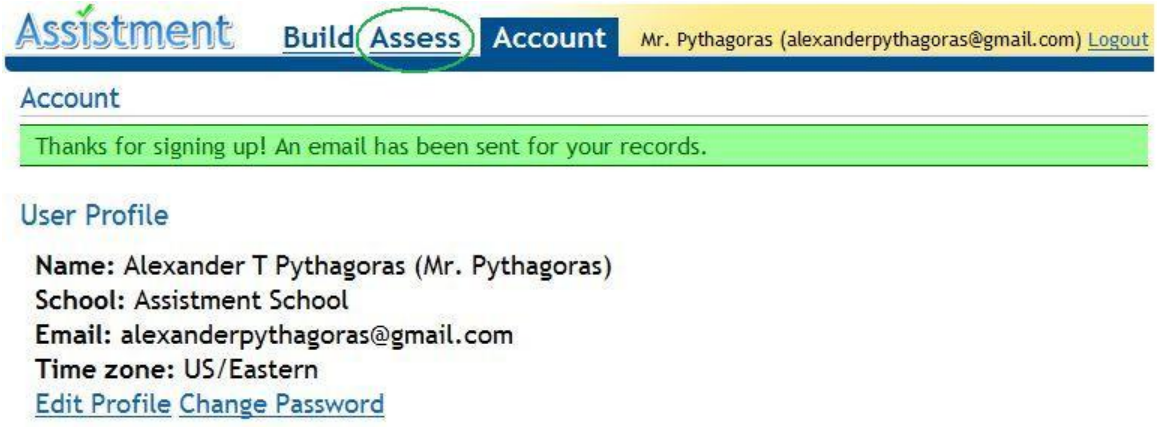
5. Enter the password that you wish to use.
    - Making this an easy password is recommended, and it is unwise to use one of your common personal passwords or the password of your e-mail account, as you may wish to share this password with colleagues.
6. Re-enter the password to confirm it.
    - This ensures that you did not make a mistake entering your password the first time.
7. Click on "Sign up."

After signing up, a page is displayed where you can check your information and, if needed, edit the information by selecting "Edit Profile."

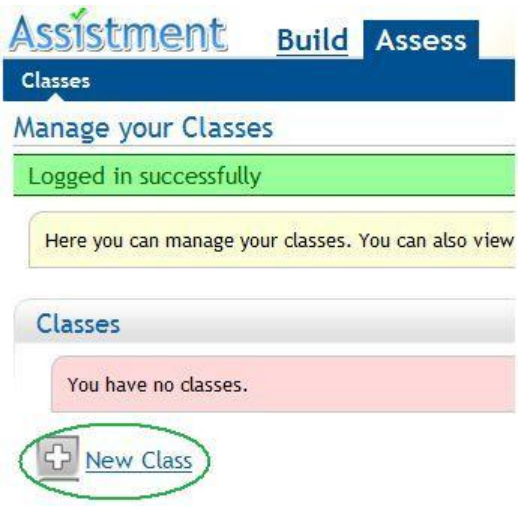


Creating a Class

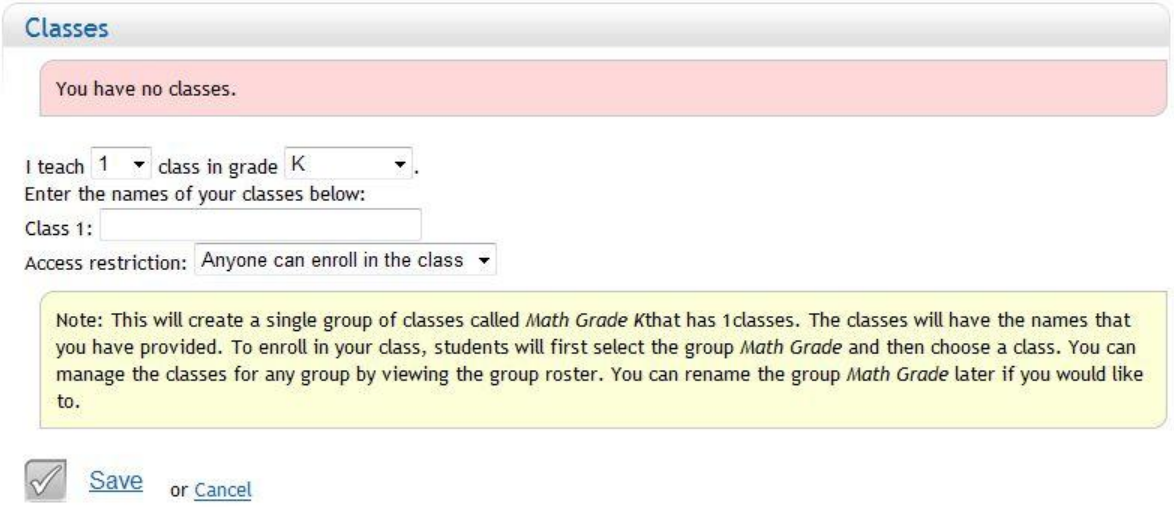
1. When you log in as a teacher, you will be brought to the following page:



2. From this page, click on “Assess.”



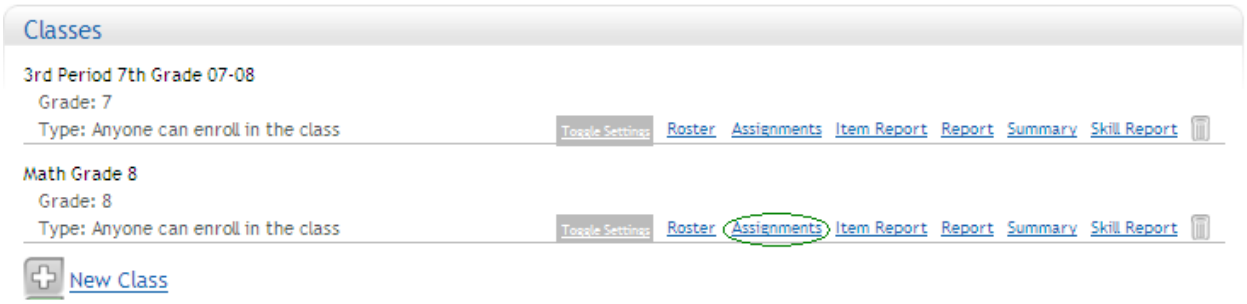
3. Select “New Class.” You will see the following:


Classes
You have no classes.
I teach 1 class in grade K .
Enter the names of your classes below:
Class 1:
Access restriction: Anyone can enroll in the class
Note: This will create a single group of classes called Math Grade Kthat has 1classes. The classes will have the names that you have provided. To enroll in your class, students will first select the group Math Grade and then choose a class. You can manage the classes for any group by viewing the group roster. You can rename the group Math Grade later if you would like to.
Save
or Cancel

4. Select the number of classes you teach in the grade level, and then select the grade level from the dropdown menu.
5. Enter the name of your class.
    - A descriptive name is a good idea, such as the grade level, the period, and the year.
6. Select the access restrictions on the class from the dropdown menu.
    - Options include: “Anyone can enroll in the class” or “Must wait for teacher approval.”
7. Click Save.
    - Students enroll in your class after they create their student accounts.
8. If you teach another grade level, you can repeat this process for the other grade.

Selecting the Curriculum

Currently, ASSISTment System assigns the curriculum to a class based upon the grade level of the class. We have separate curriculums for 6th, 7th, and 8th grade as well as curriculum for 9th and 10th grade. Select "Assignments" to see the list of problem sets in the particular curriculum.



Getting Started as a Students

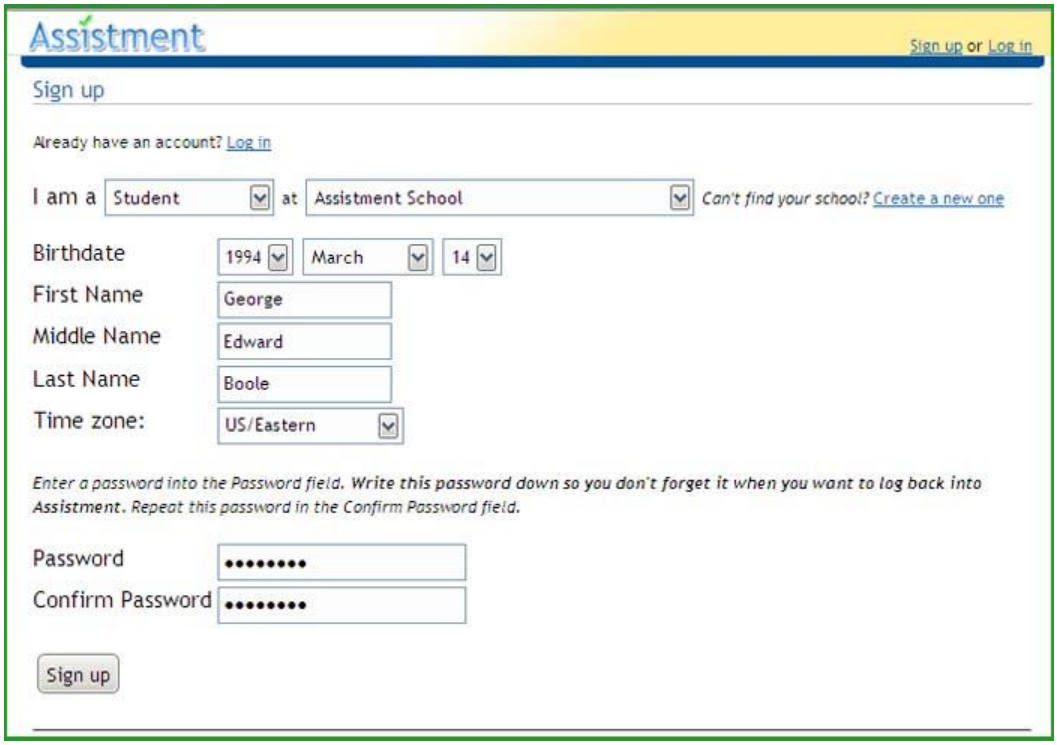
Creating a Student Account

1. Log on to the Internet. Go to www.assistment.org and click on “Sign up.”
2. Select “Student” from the “Select a type” dropdown menu.
3. Select the name of your school from the “Select a school” dropdown menu.

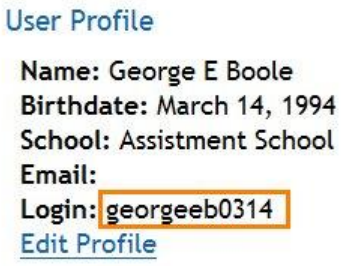
An example is shown below:

School: ASSISTment School
Name: George Edward Boole
Birth date: March 14, 1994

Notice that George has selected “Student” and his school, and he has filled in the information about his birthday and name. He has also typed in a password and retyped it to confirm it.


Assistment
Sign up or Log in
Sign up
Already have an account? Log in
I am a Student at Assistment School
Can't find your school? Create a new one
Birthdate 1994 March 14
First Name George
Middle Name Edward
Last Name Boole
Time zone: US/Eastern
Enter a password into the Password field. Write this password down so you don't forget it when you want to log back into Assistment. Repeat this password in the Confirm Password field.
Password
Confirm Password
Sign up

When George is done filling in the information, he should click on the "Sign up" button. A new page will load that will show the information the student has entered as well as their new login.



The student must write your login in a safe place. Once the student enrolls in a teacher's class, their login will be listed under Roster.

Login Names

Notice how the login name is created:

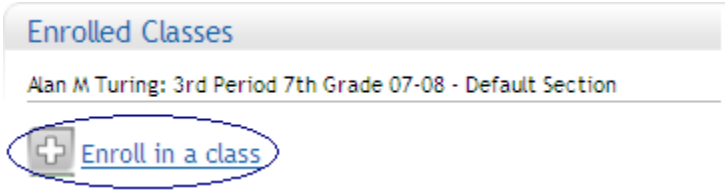
georgeeb0314

(first name)(middle name initial)(last name initial)(month of birth date)(day of month)
(george)(e)(b)(03)(14)

Enroll in a Class

At this time, it is a good idea to have your students enroll in your class.

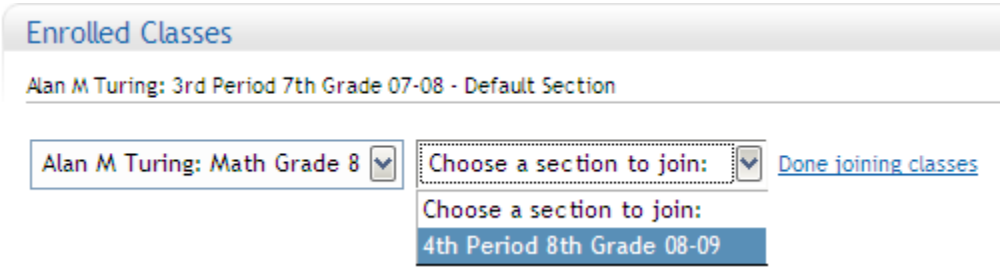
1. Click on the "Tutor" button on the top of the page. A new page will load. If the student has not enrolled in a class, a red sections says "You are not enrolled in any classes; you can enroll by selecting a class below." If your student is already enrolled in one class, have them still follow the same instructions below.
2. Click on "Enroll in a class."



3. Click on the plus sign and then click on the class you wish to enroll in. After selecting a class, select a section to join.
4. Click on "Done joining classes" to return to the previous page.

For our student, George Boole, he will join Alan M. Turing's 4th Period 8th Grade class.

First hit the downward arrow, and then click on the blue section over Alan Turing's name.

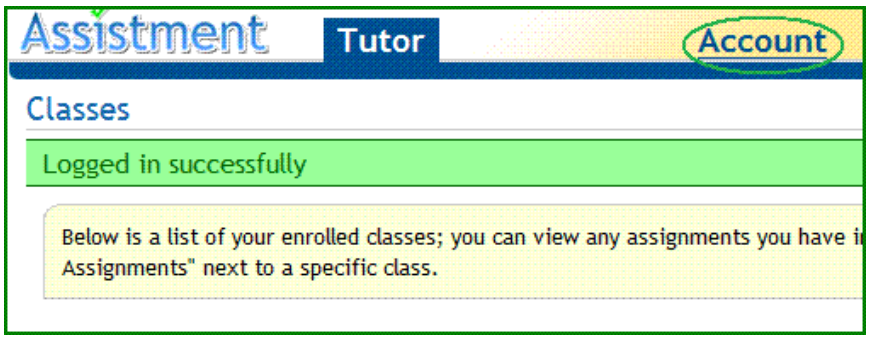

Enrolled Classes
Alan M Turing: 3rd Period 7th Grade 07-08 - Default Section
Alan M Turing: Math Grade 8
Choose a section to join:
Done joining classes
Choose a section to join:
4th Period 8th Grade 08-09

Once this is selected, a new page will load that will show that you are now enrolled in this class. If you need to enroll in multiple classes, you can repeat this process for each class. To start working with the curriculum assigned for the class, select the "Show Assignments" link.

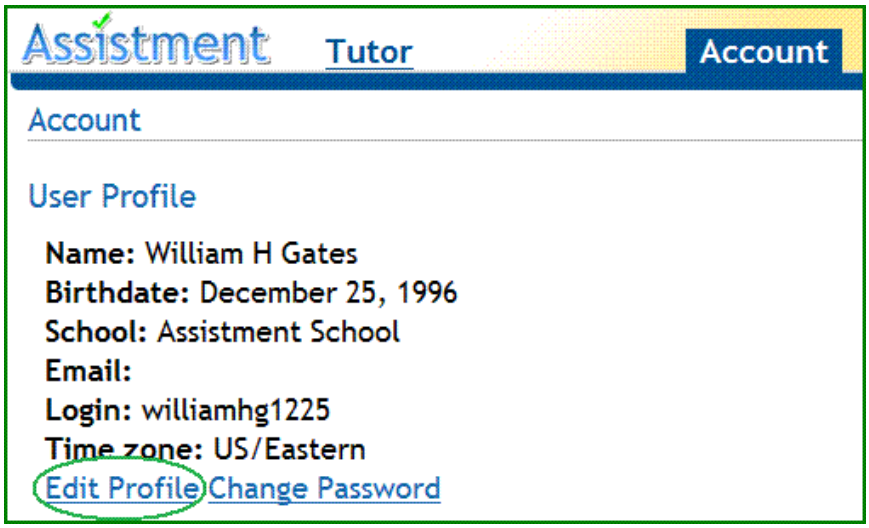
Changing Schools

If you are a student who has changed schools (or a teacher who has a transfer student in their class), do not panic. You can still use your old ASSISTment account if you can remember the user ID and password.

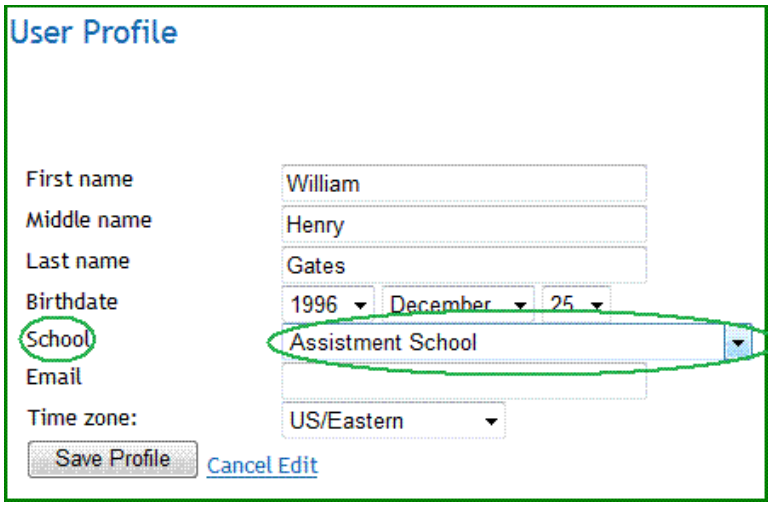
1. Log in.
2. Click on the "Account" tab.


Assistment
Tutor
Account
Classes
Logged in successfully
Below is a list of your enrolled classes; you can view any assignments you have i
Assignments" next to a specific class.

3. Let's click the edit profile link.



4. Use the dropdown box next to school to select the new school.



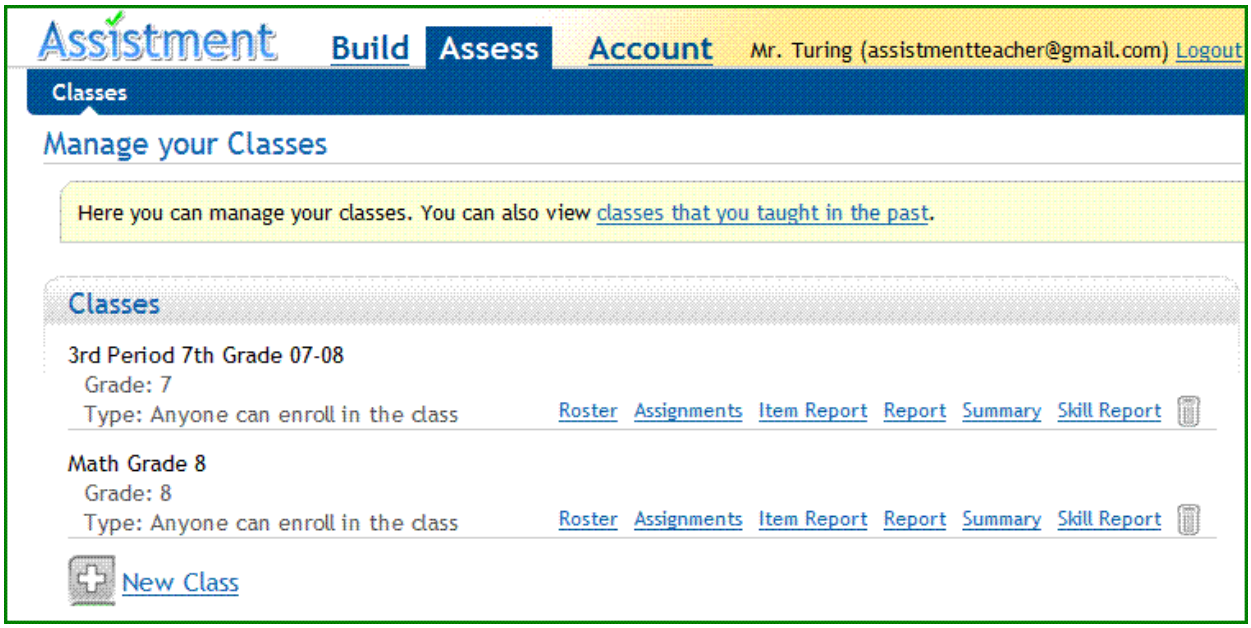
5. After you have done this, you can follow the steps for enrolling in classes.
    - If you can't remember your user ID and password, you will need to make a new account.

Finding Data about your Students

Overview..... xxi
Toggle Settings xxii
Roster xxiii
Assignments xxiv
Item Report xxv
Report..... xxvii
Summary.....xxviii
Skill Report..... xxx

Overview

When you log in to ASSISTments after creating your classes, you should see a screen similar to the one below. This is a listing of all of your active classes that are currently active in the System.

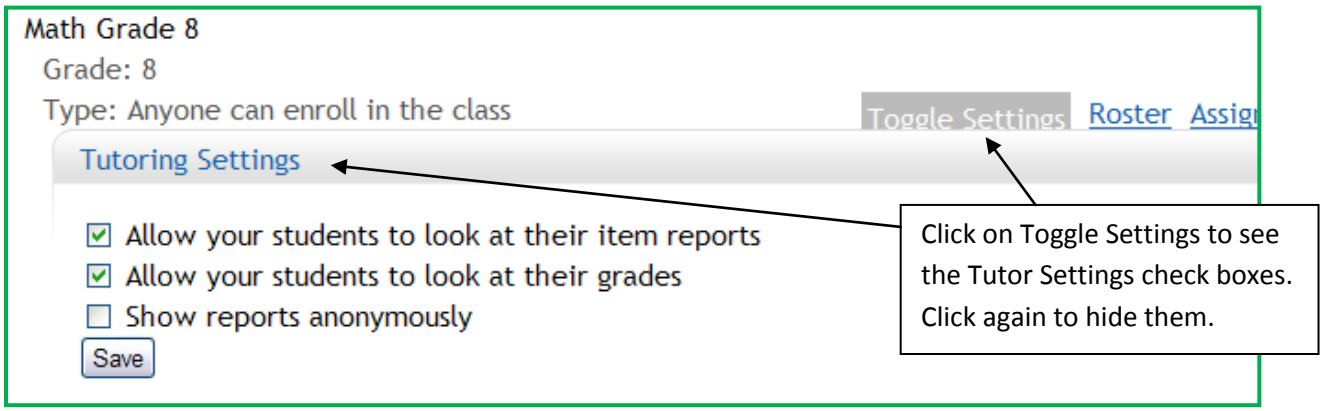

Assistment
Build
Assess
Account
Mr. Turing (assistmentteacher@gmail.com) Logout
Classes
Manage your Classes
Here you can manage your classes. You can also view classes that you taught in the past.
Classes
3rd Period 7th Grade 07-08
Grade: 7
Type: Anyone can enroll in the class
Roster Assignments Item Report Report Summary Skill Report
Math Grade 8
Grade: 8
Type: Anyone can enroll in the class
Roster Assignments Item Report Report Summary Skill Report
New Class

The following selection options appear for each class:

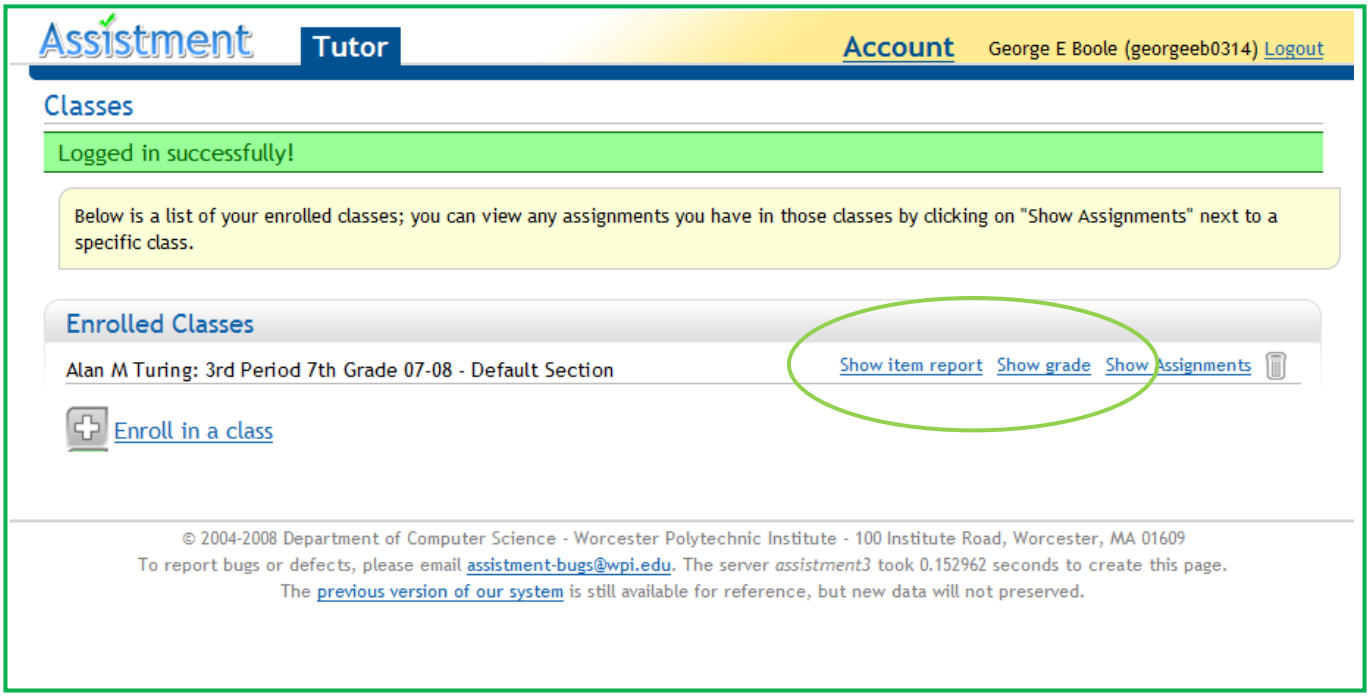
- **Toggle Settings –** Allows you to decide if you want students to see their own item reports or look at their grades. It also allows you to turn anonymity on or off on all of your reports.
- **Roster** – Lists all the students in the class and allows you to change student passwords.
- **Assignments** – Shows the assignments in the curriculum corresponding to the grade level of this class.
- **Item Report** – Shows the student's average score for the problem set and results from each individual ASSISTment in the problem set. In addition, if the student got the question wrong, the Item Report shows the incorrect response. There is a link to each ASSISTment in the problem set.
- **Report** – Shows who has started and/or finished any problem set that has been started by the class and provides a link to the item report for each of these problem sets.
- **Summary** – Shows the number of problems done, number correct, percent correct, total hints used, expected MCAS score, and Proficiency Level.

Toggle Settings

The toggles allows you to "toggle" back and forth between settings. If you want students to see their own item reports and grades when logged in to their accounts check those boxes. If you want to show any report anonymously then click on that toggle before showing the reports. Select save after making any changes. Unclick the box to hide the tutor settings.


Math Grade 8
Grade: 8
Type: Anyone can enroll in the class
Toggle Settings
Roster
Tutoring Settings
Allow your students to look at their item reports
Allow your students to look at their grades
Show reports anonymously
Save
Click on Toggle Settings to see the Tutor Settings check boxes. Click again to hide them.

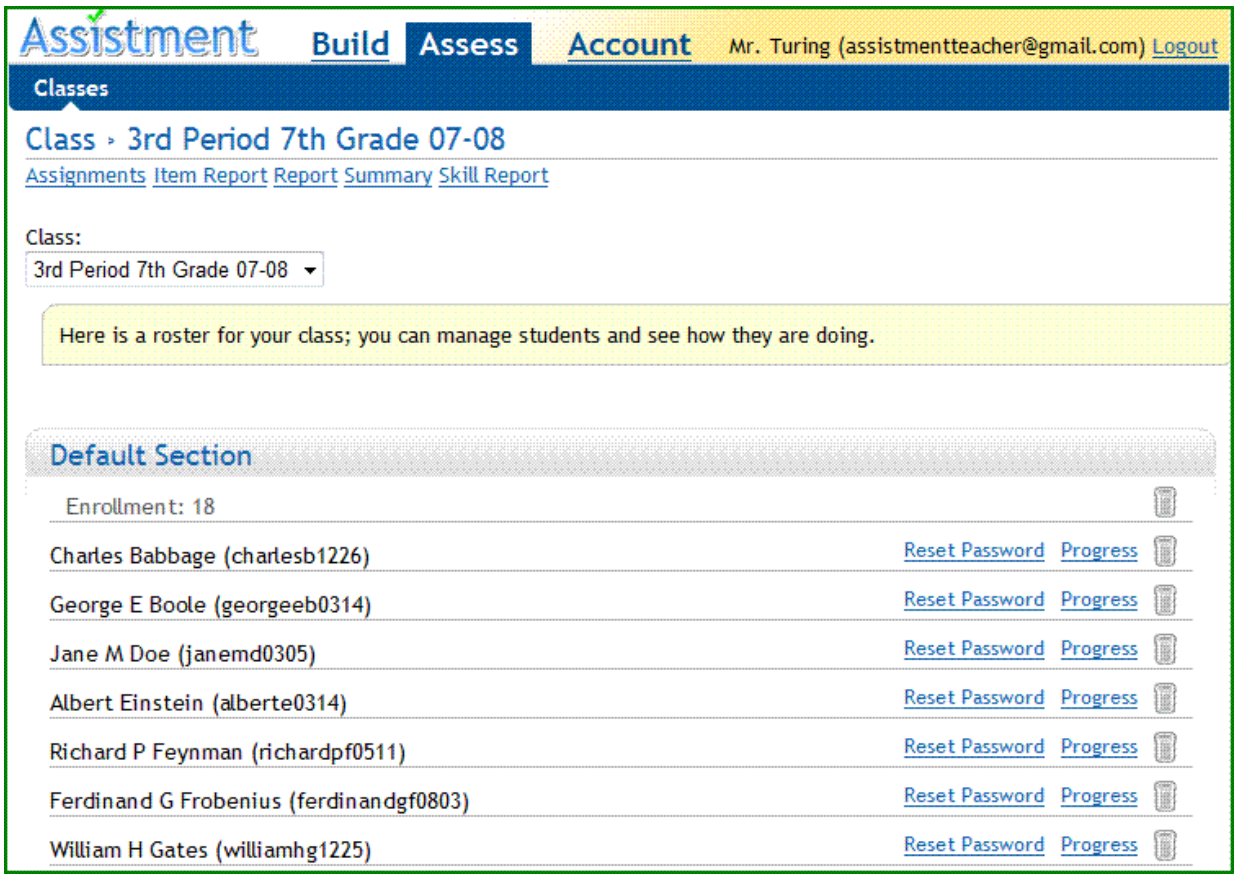
This student has Show Item report and Show grade turned on. If you do not want your students to have these links available then just unclick the toggle. You can see an example of the student's individual item report in the report section of this manual.


Assistment
Tutor
Account
George E Boole (georgeeb0314) Logout
Classes
Logged in successfully!
Below is a list of your enrolled classes; you can view any assignments you have in those classes by clicking on "Show Assignments" next to a specific class.
Enrolled Classes
Alan M Turing: 3rd Period 7th Grade 07-08 - Default Section
Show item report
Show grade
Show Assignments
Enroll in a class
© 2004-2008 Department of Computer Science - Worcester Polytechnic Institute - 100 Institute Road, Worcester, MA 01609
To report bugs or defects, please email assistment-bugs@wpi.edu. The server assistment3 took 0.152962 seconds to create this page.
The previous version of our system is still available for reference, but new data will not preserved.

Roster

The roster page shows the students enrolled in the class and the user name associated with each student.

- Keep a printout of this page in case students forget their login name.

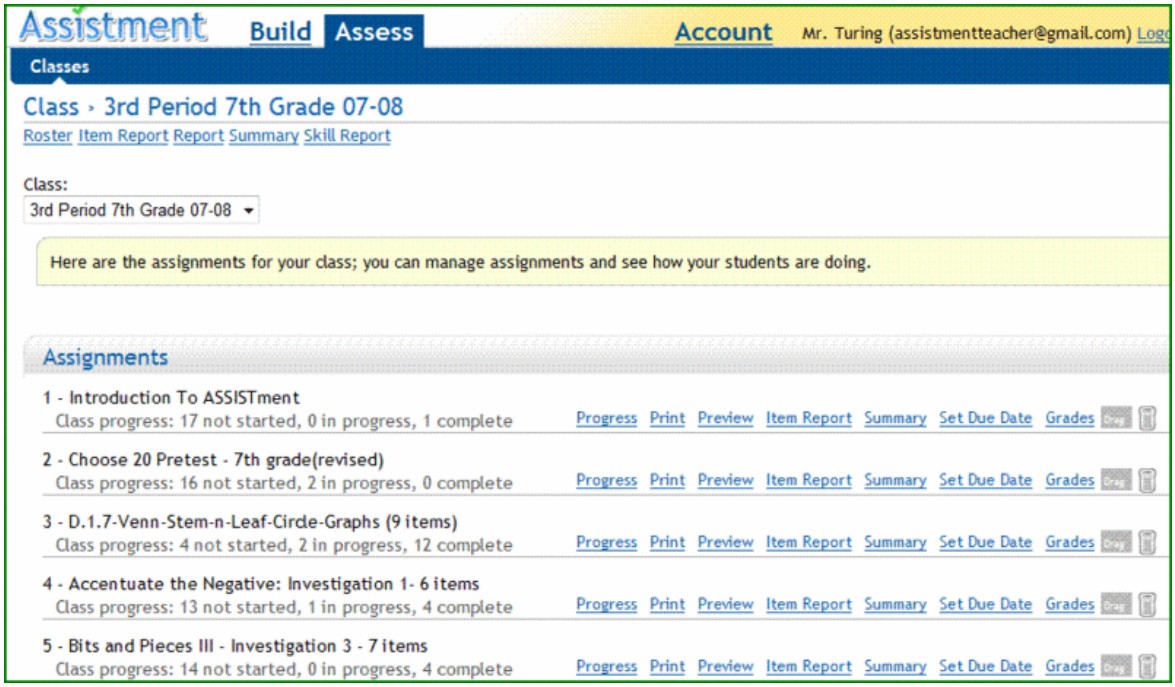

Assistment
Build
Assess
Account
Mr. Turing (assistmentteacher@gmail.com) Logout
Classes
Class › 3rd Period 7th Grade 07-08
Assignments Item Report Report Summary Skill Report
Class:
3rd Period 7th Grade 07-08
Here is a roster for your class; you can manage students and see how they are doing.
Default Section
Enrollment: 18
Charles Babbage (charlesb1226) Reset Password Progress
George E Boole (georgeeb0314) Reset Password Progress
Jane M Doe (janemd0305) Reset Password Progress
Albert Einstein (alberte0314) Reset Password Progress
Richard P Feynman (richardpf0511) Reset Password Progress
Ferdinand G Frobenius (ferdinandgf0803) Reset Password Progress
William H Gates (williamhg1225) Reset Password Progress

There are three links connected to each student's name:

- **Reset Password** – Resets the student's password to a password of your choosing.
- **Progress** – Tracks the student's progress in each assignment in the curriculum. This progress page is printable, and is helpful for parent-teacher conferences.
- **Trash Can** – Removes the student from the class.

Assignments

The assignments page shows the assignments in the curriculum for a class.


Assistment
Build
Assess
Account
Mr. Turing (assistmentteacher@gmail.com)
Classes
Class › 3rd Period 7th Grade 07-08
Roster Item Report Report Summary Skill Report
Class:
3rd Period 7th Grade 07-08
Here are the assignments for your class; you can manage assignments and see how your students are doing.
Assignments
1 - Introduction To ASSISTment
Class progress: 17 not started, 0 in progress, 1 complete
Progress Print Preview Item Report Summary Set Due Date Grades
2 - Choose 20 Pretest - 7th grade(revised)
Class progress: 16 not started, 2 in progress, 0 complete
Progress Print Preview Item Report Summary Set Due Date Grades
3 - D.1.7-Venn-Stem-n-Leaf-Circle-Graphs (9 items)
Class progress: 4 not started, 2 in progress, 12 complete
Progress Print Preview Item Report Summary Set Due Date Grades
4 - Accentuate the Negative: Investigation 1- 6 items
Class progress: 13 not started, 1 in progress, 4 complete
Progress Print Preview Item Report Summary Set Due Date Grades
5 - Bits and Pieces III - Investigation 3 - 7 items
Class progress: 14 not started, 0 in progress, 4 complete
Progress Print Preview Item Report Summary Set Due Date Grades

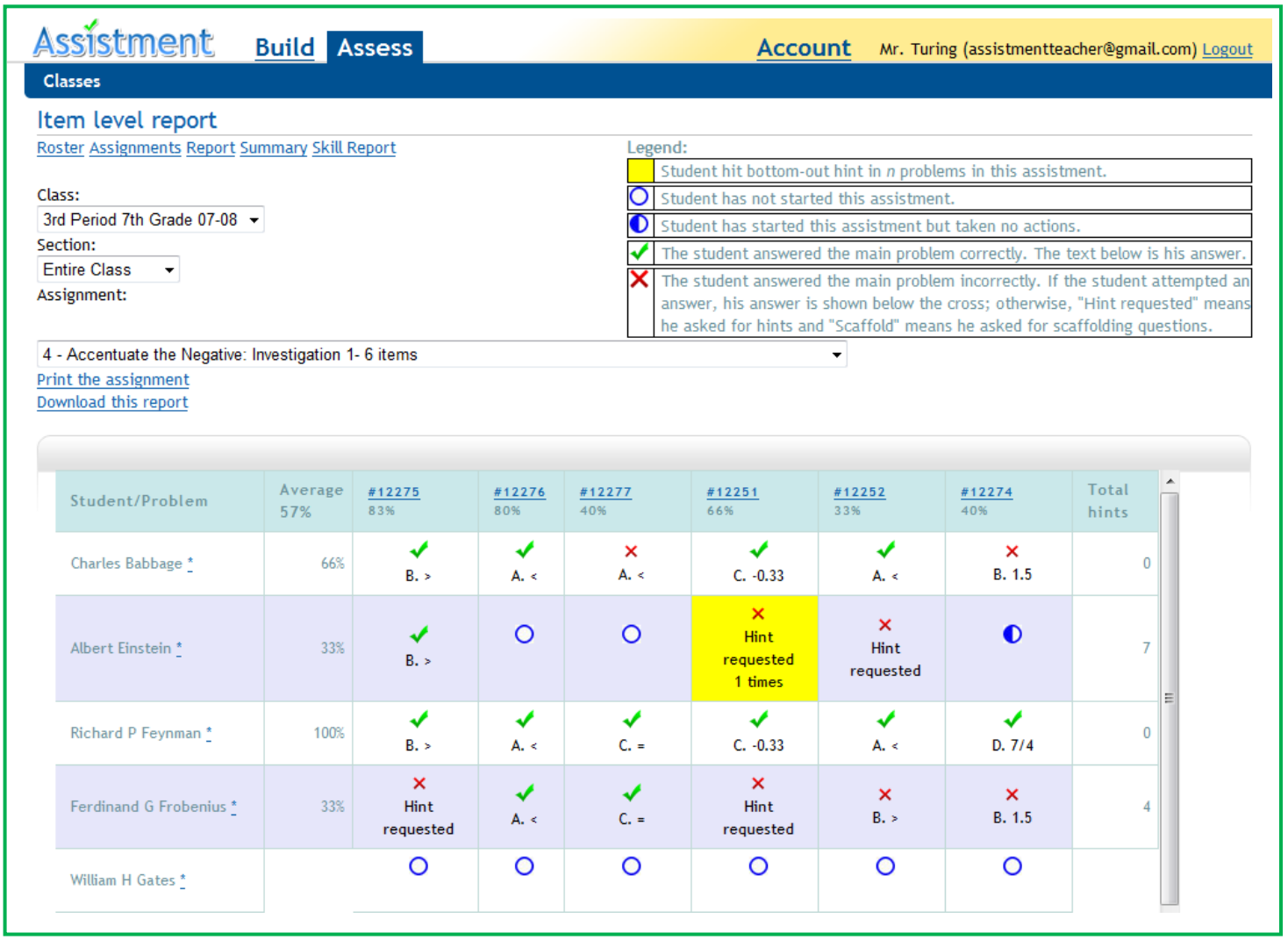
The assignments are numbered in the order they appear to the students. Below each assignment is the class progress on the assignment: not started, in progress, or complete. There are nine links connected to each problem set:

- **Progress** – Opens a view of the status of each student on the assignment (not started, in progress, complete). Press progress again to close this view.
- **Print** – Gives the option of printing the selected problem set.
- **Preview** – Experience a problem set as a student would see it, but no score is recorded.
- **Item Report** – Gives a detailed report on the student's progress for that problem set.
- **Summary** – A summary of the student's performance on the problem set, with their predicted MCAS score and their level of deviation from an average student.
- **Set due date** – Set a due date for the problem set.
- **Grades** – Shows the grades for each student on a given problem set. Also allows you to change the grade of students for individual problem sets.
- **Drag** – Allows you to rearrange the order of problem sets within the curriculum.
- **Trash Can** – Deletes a problem set from the curriculum.

Item Report

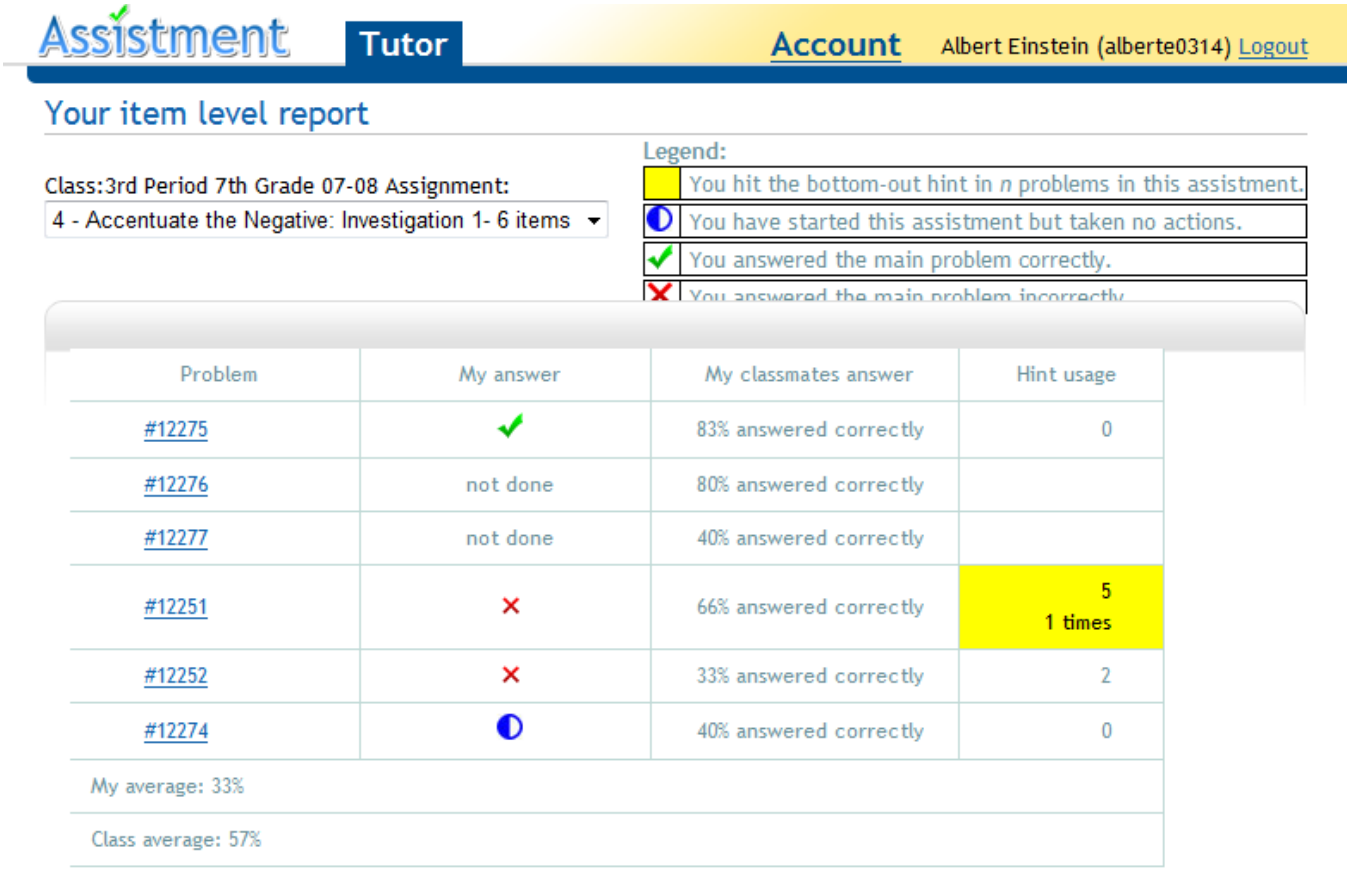
The item report shows the information on each student for each ASSISTment question in a problem set:

- The first drop down box allows you to select the class you wish to look at, the second drop down box lets you select the class section, and the third drop down box lets you select the assignment.
- When you select the problem set, the progress and scoring data for your class on that problem set is displayed.
- In the first column will be the name of the student followed by their average on the entire problem set.
- The top row shows the ASSISTment problem number. Selecting this brings up a preview of the ASSISTment problem.
- The percent beneath the ASSISTment number shows the percent of the class who got the problem right. Looking for low percentage problems can help identify areas in which the class is weak.


Assistment
Build
Assess
Account
Mr. Turing (assistmentteacher@gmail.com) Logout
Classes
Item level report
Roster Assignments Report Summary Skill Report
Class:
3rd Period 7th Grade 07-08
Section:
Entire Class
Assignment:
Legend:
Student hit bottom-out hint in n problems in this assistment.
Student has not started this assistment.
Student has started this assistment but taken no actions.
The student answered the main problem correctly. The text below is his answer.
The student answered the main problem incorrectly. If the student attempted an answer, his answer is shown below the cross; otherwise, "Hint requested" means he asked for hints and "Scaffold" means he asked for scaffolding questions.
4 - Accentuate the Negative: Investigation 1- 6 items
Print the assignment
Download this report
Student/Problem
Average 57%
#12275 83%
#12276 80%
#12277 40%
#12251 66%
#12252 33%
#12274 40%
Total hints
Charles Babbage * 66% B. > A. < A. < C. -0.33 A. < B. 1.5 0
Albert Einstein * 33% B. > Hint requested 1 times Hint requested 7
Richard P Feynman * 100% B. > A. < C. = C. -0.33 A. < D. 7/4 0
Ferdinand G Frobenius * 33% Hint requested A. < C. = Hint requested B. > B. 1.5 4
William H Gates *

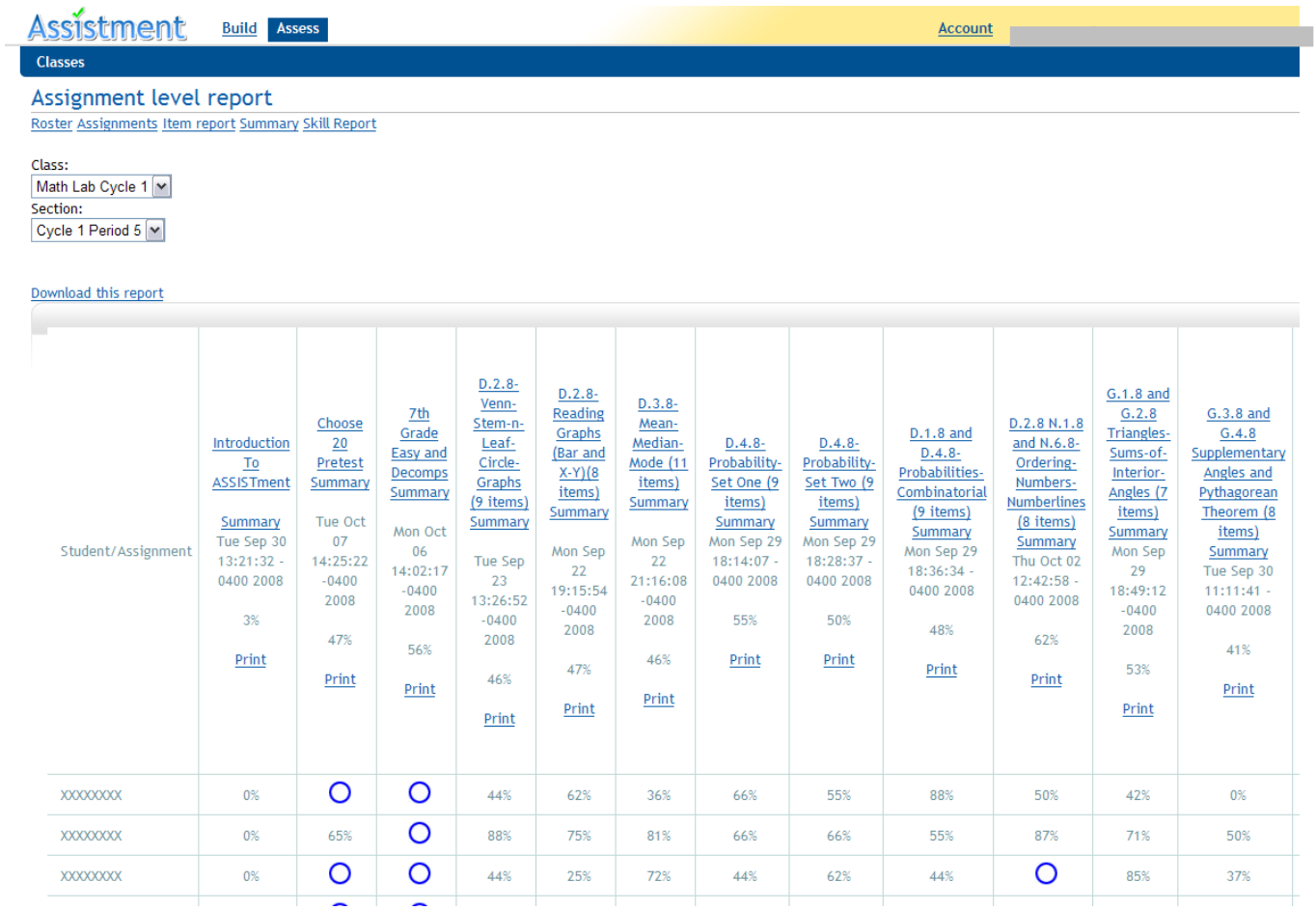
- For each ASSISTment problem, the student's given answer is shown weather it is right or wrong.
- There is a green check mark if it is correct.
- There is a red x if it is incorrect.
- A box highlighted in yellow means the student has reached the last hint in the ASSISTment a certain number of times.
- An open circle means the student hasn't begun the problem set.
- A half circle means the student has started, but not completed the problem set.

If the toggle is turned on each student can see their own item report. In this example Albert Einstein has started Accentuate the Negative: Investigation 1- 6 items. He got to a bottom out hint once on item 12251 and needed two hints in 12252. He finished three items getting one correct. He started reading 1274 but never selected an answer. He has not started 12276 or 12277. He can also compare his results to the rest of his class. All of this information is also shown in the teacher item report above including his average and the class average.



Report

The Class Report allows you to easily see how the entire class is performing on each problem set.



The first dropdown box allows you to select a class. The second allows you to select a section of the class. The first column is a list of the students in the class.

The first row shows important information about what the student has accomplished.

- The name of the problem set done by at least one student in the class or section selected. Clicking on the name will take you to the item report.
- The date on which most students worked on this problem set.
- The percent correct for class and section selected.
- A link to print the whole problem set.

The following is a key for the symbols you will see:

The percent correct is given for any student that has finished the problem set.

The half circle is given if the student has started, but has not completed, the problem set.

The open circle is given if the student has not started the problem set.

Summary

The summary page shows the overall scores for each student in a class, either on all problem sets or on individual problem set.

The dropdown boxes allow you to choose the class, section and problem sets.

The different colored highlights in the table refer to the following:

Dark blue means that the value is two standard deviations above normal.

Light blue corresponds to one standard deviation above average

White denotes less than one standard deviation away from average (either above or below).

Orange indicates one standard deviation below average.

Dark orange represents two standard deviations below normal.

Note: A dark blue highlight could be good or bad. For example, a student that is highlighted in dark blue for average score and MCAS score is very well off, but a student with a dark blue highlight in hints used means that the student uses more hints than they should be using and may need additional help or motivation.

The “Original questions” column covers the questions in the chosen problem set. The “All questions” column covers the questions from the “Original questions” column, in addition to the scaffolding questions the students are given if an ASSISTment is answered incorrectly. This allows teachers to see how students respond to the hints given for the problem.

In the “Original questions” column, the sub-columns include the number of questions in the problem set that the student has answered, the number of questions completed, the number of questions correct, the percent correct, a predicted MCAS score, and the proficiency (performance) level corresponding to the MCAS score. MCAS prediction is most accurate when looking at all problem sets. In the “All questions” column, the students’

overall performance with the scaffolding questions are factored in, along with the total number of questions answered, number correct, percent correct, and total hints used. This column only differs from the "Original questions" column if the problem set includes scaffolding questions.

Class summary

Roster Assignments Item report Report Skill Report

Class: Math Lab Cycle 1
Section: Entire Class
Assignment: All assignments

Legend:
- Two standard deviations above average
- One standard deviation above average
- Within one standard deviation above or below average
- One standard deviation below average
- Two standard deviations below average

Print this report

Student	Original questions					All questions			
	Done	Correct	Average	MCAS score	Perf. Level	Done	Correct	Average	Total hints
F	28	10	35%	211	Warning/Failing-High	88	45	51%	13
P	600	387	64%	238	Needs improv.-High	1026	661	64%	203
E	197	62	31%	207	Warning/Failing-Low	562	228	40%	242
S	424	305	71%	245	Pro./Adv.	753	525	69%	117
S	417	332	79%	253	Pro./Adv.	703	537	76%	18
V	218	122	55%	230	Needs improv.-High	490	281	57%	123
N	328	152	46%	221	Needs improv.-Low	700	362	51%	341
A	1065	912	85%	258	Pro./Adv.	1278	1095	85%	29
M	492	308	62%	237	Needs improv.-High	854	519	60%	133
K	563	145	25%	202	Warning/Failing-Low	1401	335	23%	1582
C	495	403	81%	254	Pro./Adv.	740	603	81%	32
C	1038	750	72%	246	Pro./Adv.	1471	1076	73%	14
N	814	610	74%	248	Pro./Adv.	1126	830	73%	97
R	244	106	43%	219	Needs improv.-Low	628	308	49%	230
S	277	127	45%	221	Needs improv.-Low	669	315	47%	290
C	542	342	63%	237	Needs improv.-High	1154	687	59%	126
P	413	129	31%	207	Warning/Failing-Low	1293	376	29%	1065
J	299	70	23%	200	Warning/Failing-Low	939	239	25%	690
C	277	112	40%	216	Warning/Failing-High	709	343	48%	211
J	414	257	62%	236	Needs improv.-High	904	506	55%	97
C	709	482	67%	242	Pro./Adv.	1073	734	68%	269
A	493	443	89%	262	Pro./Adv.	563	504	89%	40
Class average	488		56%	230					315
Standard deviation	245		18%	17					352

Skill Report

Skill level report

Roster Assignments Item report Report Summary

Which Class: 3rd Period 7th Grade 07-08

All Classes

Settings

Submit

Top 143 well-done knowledge components

5 Mathematic Strands Click to sort by	39 Learning Standards Click to sort by	106-KC Transfer Model Created by WPI for 8th Grade Math	Skill Meter	Rate Click to sort by	#Record	#Correct
N-Number-Sense-Operations	N.1.8-understanding-number-representations	Fractions		58%	17	10
N-Number-Sense-Operations	N.1.8-understanding-number-representations	Percents		58%	12	7
D-Data-Analysis-Statistics-Probability	D.2.8-understanding-data-presentation-techniques	Venn-Diagram		58%	12	7
P-Patterns-Relations-Algebra	P.10.8-understanding-linear-growth	Fraction-Multiplication		58%	12	7
N-Number-Sense-Operations	N.1.8-understanding-number-representations	Integers		58%	24	14
D-Data-Analysis-Statistics-Probability	D.3.8-understanding-data-representation-techniques	Mean		55%	27	15
D-Data-Analysis-Statistics-Probability	D.3.8-understanding-data-representation-techniques	Median		50%	102	51

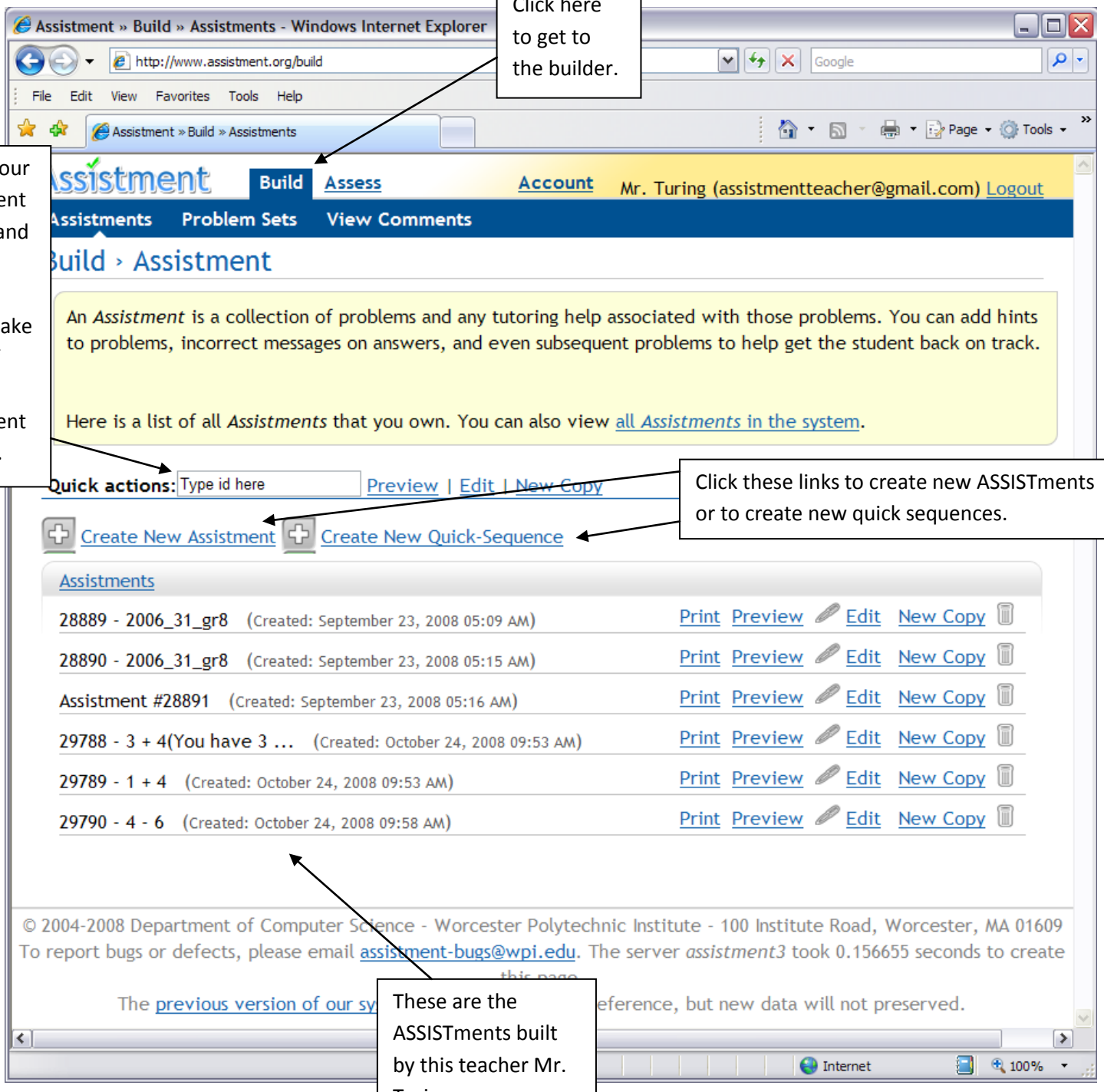
- The first column in the skill report shows the different strands of math that apply to a problem set. Click the first column to organize the data based on the five strands.
- The second column displays the learning standards that the problem set meets. Click on the column to organize the data based on the 39 different mathematical standards.
- The third column displays the type of problem that the problem set has been tagged. Some examples include: Multiplication, Fractions, and Rounding.
- The fourth column is the Skill Meter, a visual representation of how well the class is performing in that certain skill.
- The fifth column displays the percentage of students who answered the questions correctly for that skill. Click on this column to organize the data based on the percentage correct (arranged from highest percentage to lowest).
- The next column shows the number of students who have completed a problem for that certain skill.
- The final column displays the number of students who got a problem correct for that certain skill.

Building your own Content

Overview of the builder xxxii
Creating a Quick Sequence xxxiii
Creating an ASSISTment xxxvii

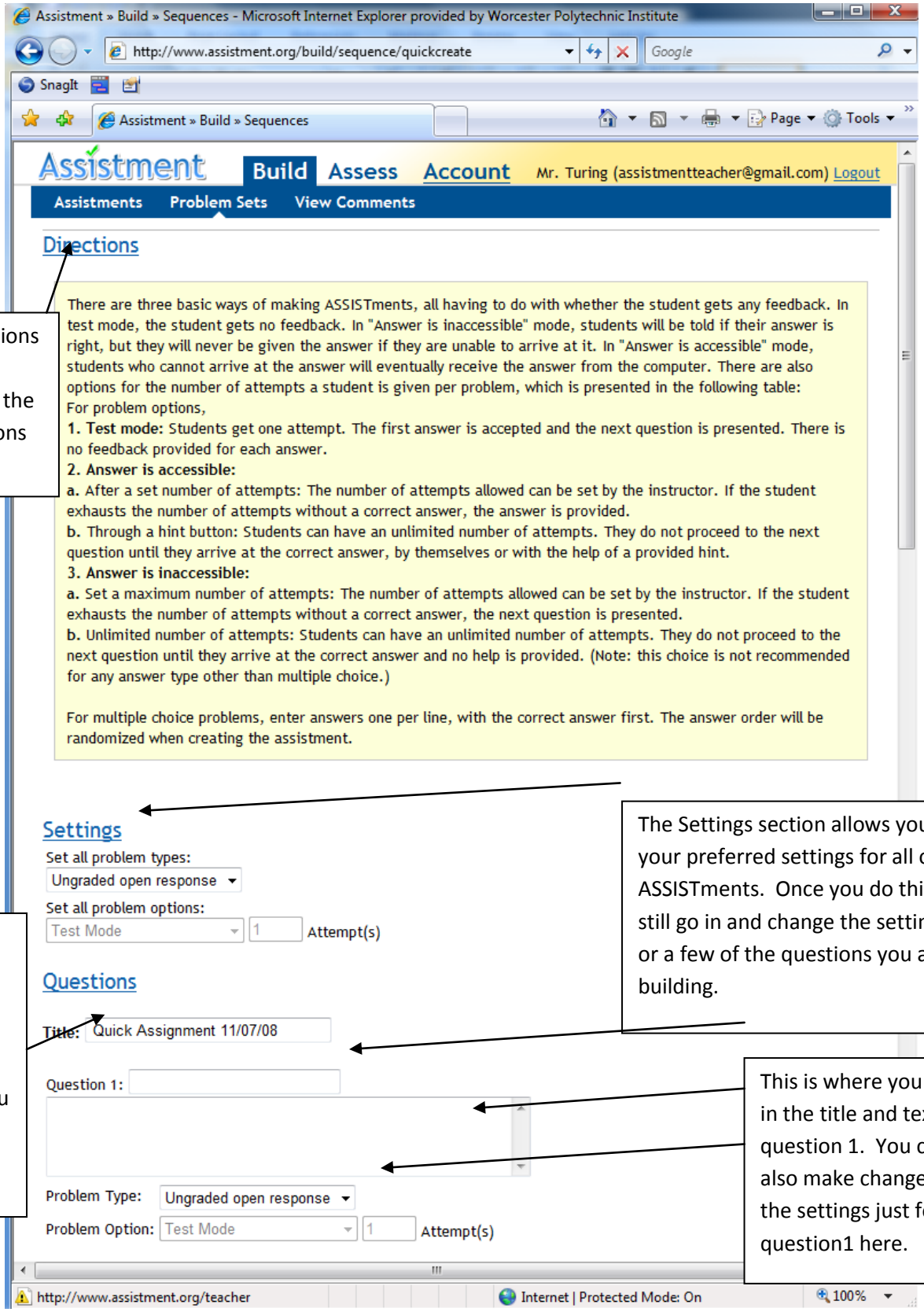
Overview of the builder

ASSISTment questions are created in the Builder. Select Build on your ASSISTment screen and then select ASSISTments. From here you can either edit an existing ASSISTment by placing its number in the box and clicking on Edit or you can "Create New ASSISTment" to build one from scratch. We will begin our tutorial of the builder by showing how to build a quick sequence. Start by clicking on "Create New Quick-Sequence."


Click here to get to the builder.
Type in your ASSISTment number and then Preview, Edit or make a copy of the ASSISTment question.
Click these links to create new ASSISTments or to create new quick sequences.
These are the ASSISTments built by this teacher Mr. Turing.
Assistment » Build » Assistments - Windows Internet Explorer
http://www.assistment.org/build
Build
Assess
Account
Mr. Turing (assistmentteacher@gmail.com) Logout
Problem Sets
View Comments
Build › Assistment
An Assistment is a collection of problems and any tutoring help associated with those problems. You can add hints to problems, incorrect messages on answers, and even subsequent problems to help get the student back on track.
Here is a list of all Assistments that you own. You can also view all Assistments in the system.
Quick actions: Type id here
Preview | Edit | New Copy
Create New Assistment
Create New Quick-Sequence
Assistments
28889 - 2006_31_gr8 (Created: September 23, 2008 05:09 AM)
28890 - 2006_31_gr8 (Created: September 23, 2008 05:15 AM)
Assistment #28891 (Created: September 23, 2008 05:16 AM)
29788 - 3 + 4(You have 3 ... (Created: October 24, 2008 09:53 AM)
29789 - 1 + 4 (Created: October 24, 2008 09:53 AM)
29790 - 4 - 6 (Created: October 24, 2008 09:58 AM)
Print Preview Edit New Copy
© 2004-2008 Department of Computer Science - Worcester Polytechnic Institute - 100 Institute Road, Worcester, MA 01609
To report bugs or defects, please email assistment-bugs@wpi.edu. The server assistment3 took 0.156655 seconds to create
Internet
100%

Creating a Quick Sequence

The quick builder is a tool that allows teachers to make quick assignments.


Assistment » Build » Sequences - Microsoft Internet Explorer provided by Worcester Polytechnic Institute
http://www.assistment.org/build/sequence/quickcreate
Assistment » Build » Sequences
Assistment
Build
Assess
Account
Mr. Turing (assistmentteacher@gmail.com) Logout
Assistments
Problem Sets
View Comments
Directions
There are three basic ways of making ASSISTments, all having to do with whether the student gets any feedback. In test mode, the student gets no feedback. In "Answer is inaccessible" mode, students will be told if their answer is right, but they will never be given the answer if they are unable to arrive at it. In "Answer is accessible" mode, students who cannot arrive at the answer will eventually receive the answer from the computer. There are also options for the number of attempts a student is given per problem, which is presented in the following table:
For problem options,
1. Test mode: Students get one attempt. The first answer is accepted and the next question is presented. There is no feedback provided for each answer.
2. Answer is accessible:
a. After a set number of attempts: The number of attempts allowed can be set by the instructor. If the student exhausts the number of attempts without a correct answer, the answer is provided.
b. Through a hint button: Students can have an unlimited number of attempts. They do not proceed to the next question until they arrive at the correct answer, by themselves or with the help of a provided hint.
3. Answer is inaccessible:
a. Set a maximum number of attempts: The number of attempts allowed can be set by the instructor. If the student exhausts the number of attempts without a correct answer, the next question is presented.
b. Unlimited number of attempts: Students can have an unlimited number of attempts. They do not proceed to the next question until they arrive at the correct answer and no help is provided. (Note: this choice is not recommended for any answer type other than multiple choice.)
For multiple choice problems, enter answers one per line, with the correct answer first. The answer order will be randomized when creating the assistment.
Settings
Set all problem types:
Ungraded open response
Set all problem options:
Test Mode
1
Attempt(s)
Questions
Title:
Quick Assignment 11/07/08
Question 1:
Problem Type:
Ungraded open response
Problem Option:
Test Mode
1
Attempt(s)
http://www.assistment.org/teacher
Internet | Protected Mode: On
100%

Click on directions to get a quick description of the different options available.

The Settings section allows you to set your preferred settings for all of the ASSISTments. Once you do this you can still go in and change the settings on all or a few of the questions you are building.

This is the title for your problem set. The default name includes the date so you can easily find your new problem set.

This is where you type in the title and text for question 1. You can also make changes to the settings just for question1 here.

Some teachers use quick built problem sets to quiz their students on lectures at the end of class. Some use it to quickly connect the ASSISTments to homework assigned out of the book. To do this they just type in Page 12 #4 for example so the student can find the question in the book and then input the answer, students input their answers online at home and the teacher gets a report before school starts. In either case the problem set is easy to build and the reports show up instantly once the student had finished their work.

There are endless possibilities for how to use this feature. We have provided different modes depending on your needs. They are organized by **Problem Options**:

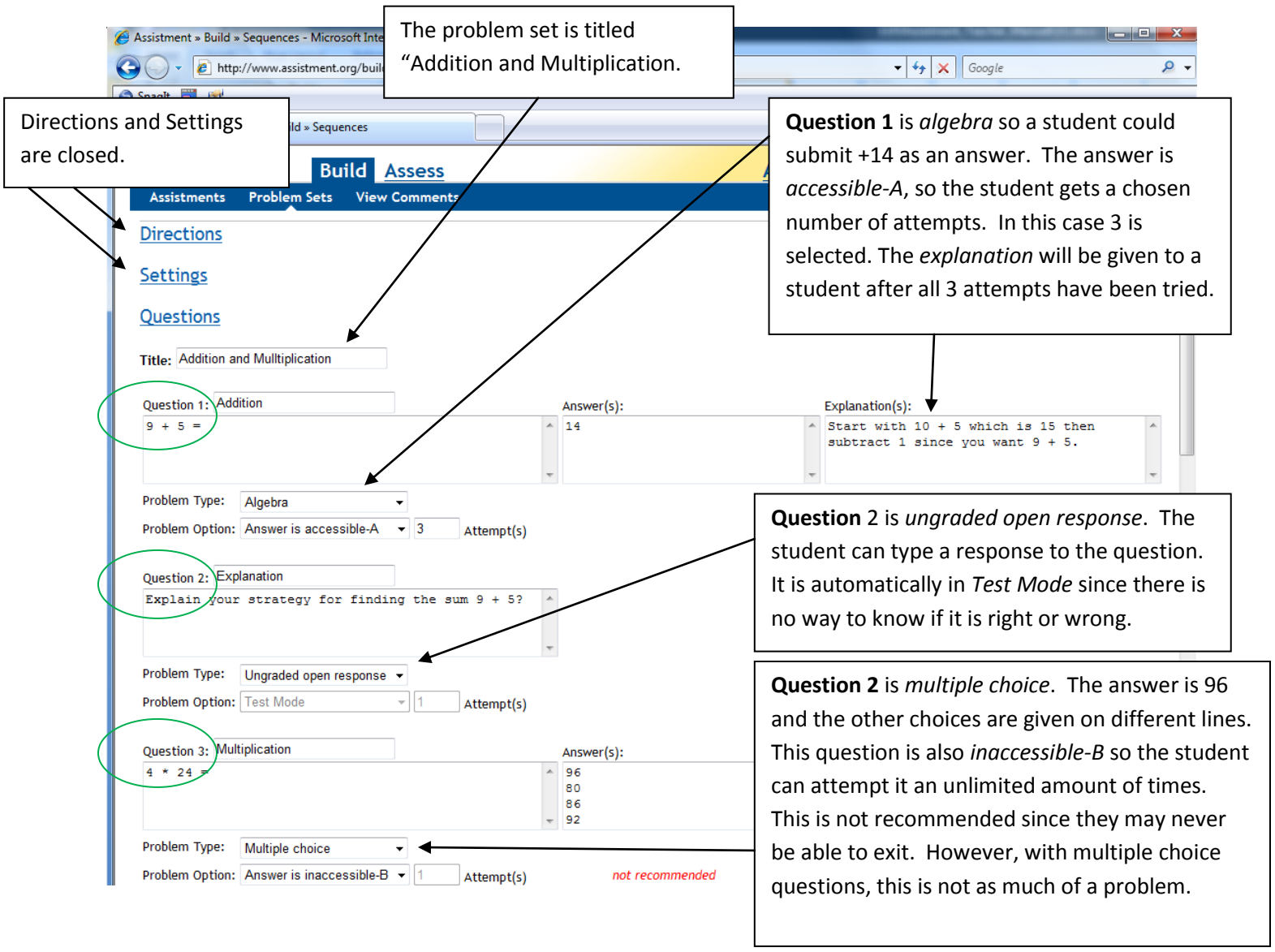
- Test Mode – students get one attempt and are given the message "We will not tell you if you are right or wrong."
- Answer is **accessible** – in this mode a student who cannot work out the problem on their own will be given the answer at the end.
- Answer is **inaccessible** – in this mode the student who cannot work out the problem will never be given the answer.

For Answer *accessible* and answer *inaccessible*, you have **two options "a" or "b"**:

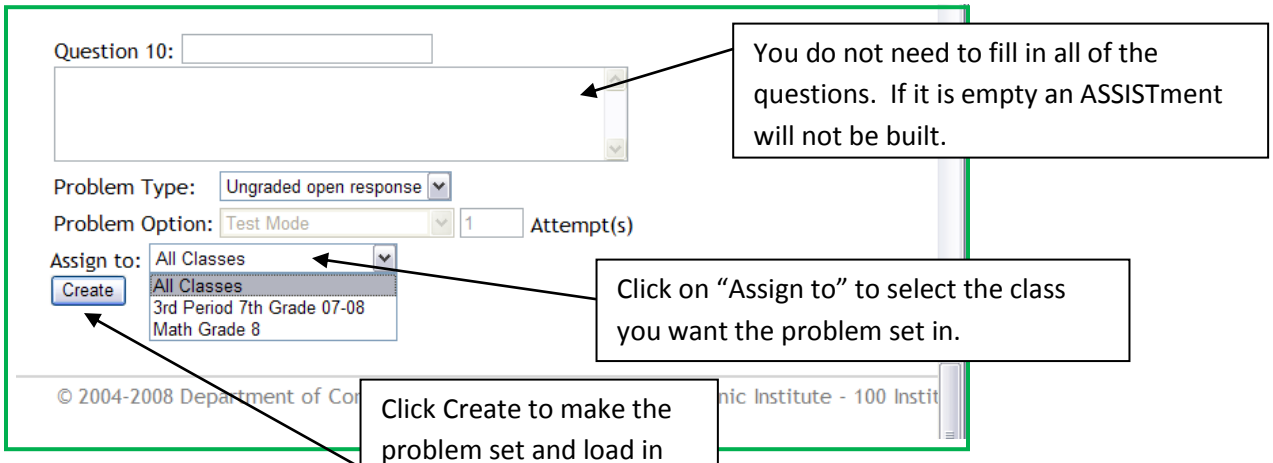
a) Finish after a selected number of tries, or
b) Try as many times as the student wishes.

The final choice you can make is to select the **answer type**:

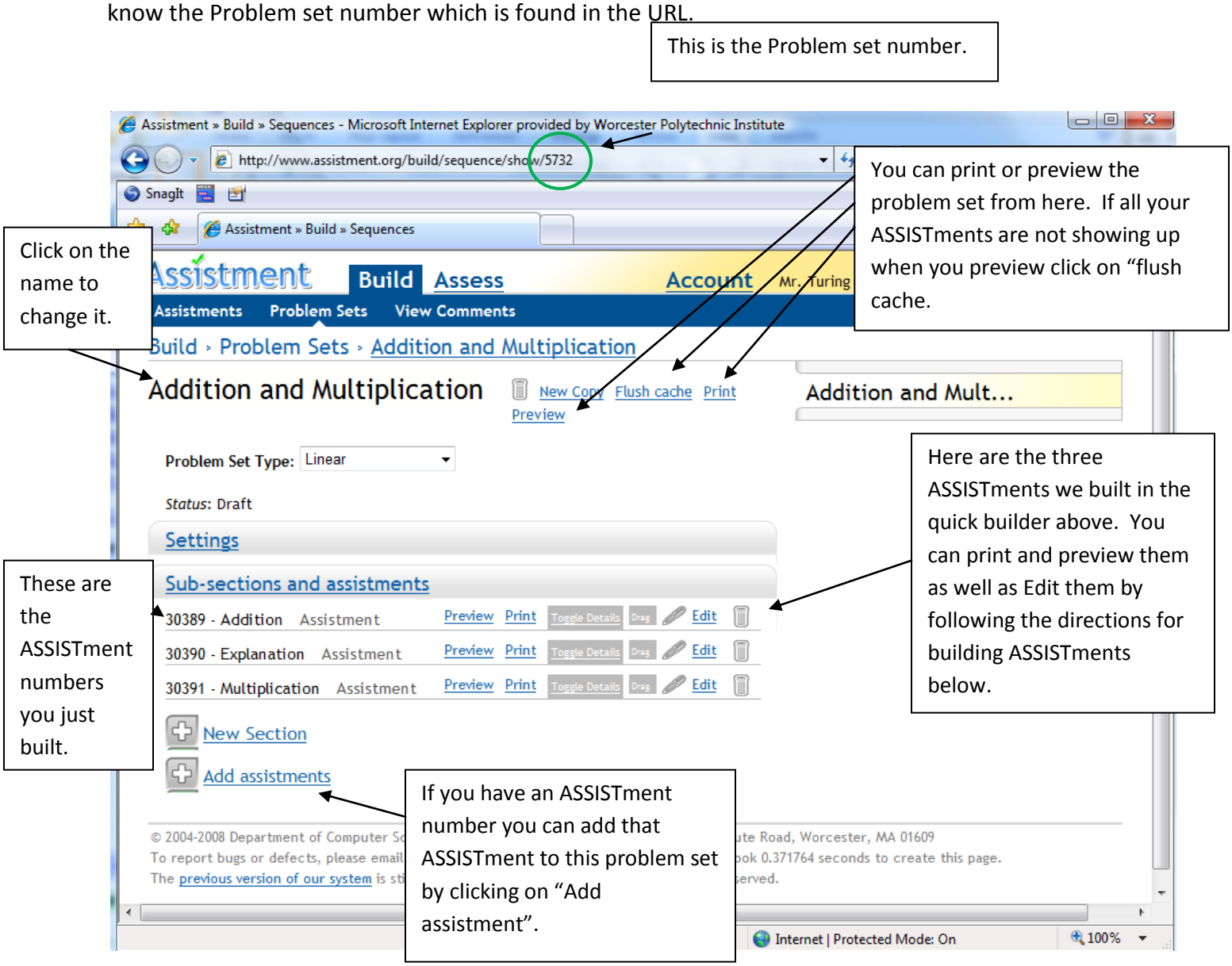
- **Ungraded open response –** the student types anything using their keyboard and you can grade these afterwards.
- **Multiple choice –** the first answer you type will be the correct one. Then type enter between each other choice option. We do not suggest you use A, B, C, D etc since we randomize the answers so the first answer is not always correct.
- **Fill in –** the student must type exactly what you typed.
- **Algebra –** the student can type anything that is mathematically equivalent to what you typed. For example if you type in 4/5 a student who types in .8 will still get the problem correct. The same is true for .45 and 0.45 or x + 3 and 3 +x.


The problem set is titled "Addition and Multiplication.
Directions and Settings are closed.
Question 1 is algebra so a student could submit +14 as an answer. The answer is accessible-A, so the student gets a chosen number of attempts. In this case 3 is selected. The explanation will be given to a student after all 3 attempts have been tried.
Build
Assess
Assistments
Problem Sets
View Comments
Directions
Settings
Questions
Title: Addition and Mulltiplication
Question 1: Addition
9 + 5 =
Answer(s): 14
Explanation(s): Start with 10 + 5 which is 15 then subtract 1 since you want 9 + 5.
Problem Type: Algebra
Problem Option: Answer is accessible-A 3 Attempt(s)
Question 2: Explanation
Explain your strategy for finding the sum 9 + 5?
Problem Type: Ungraded open response
Problem Option: Test Mode 1 Attempt(s)
Question 3: Multiplication
4 * 24 =
Answer(s): 96 80 86 92
Problem Type: Multiple choice
Problem Option: Answer is inaccessible-B 1 Attempt(s) not recommended
Question 2 is ungraded open response. The student can type a response to the question. It is automatically in Test Mode since there is no way to know if it is right or wrong.
Question 2 is multiple choice. The answer is 96 and the other choices are given on different lines. This question is also inaccessible-B so the student can attempt it an unlimited amount of times. This is not recommended since they may never be able to exit. However, with multiple choice questions, this is not as much of a problem.

Once you have written your test (see above) you need to select which class you want to load this problem set into. To do this click on "Assign to" and then click create. You will see your new problem set and it will automatically be loaded into your class


Question 10:
You do not need to fill in all of the questions. If it is empty an ASSISTment will not be built.
Problem Type: Ungraded open response
Problem Option: Test Mode 1 Attempt(s)
Assign to: All Classes
Create
All Classes
3rd Period 7th Grade 07-08
Math Grade 8
Click on "Assign to" to select the class you want the problem set in.
Click Create to make the problem set and load in into your class.

When you click on Create, the screen goes to the **Problem Set builder**. This page shows the title of your Problem set and all the new ASSISTments you just created in the quick assign. You can edit your ASSISTments and the Problem Set from here. Next time you click on Problem Sets in the Build section you will see a list of all the problem sets you have built. In order to return to this problem set it helps to know the Problem set number which is found in the URL.


This is the Problem set number.
You can print or preview the problem set from here. If all your ASSISTments are not showing up when you preview click on "flush cache.
Click on the name to change it.
Here are the three ASSISTments we built in the quick builder above. You can print and preview them as well as Edit them by following the directions for building ASSISTments below.
These are the ASSISTment numbers you just built.
If you have an ASSISTment number you can add that ASSISTment to this problem set by clicking on "Add assistment".
Assistment » Build » Sequences - Microsoft Internet Explorer provided by Worcester Polytechnic Institute
http://www.assistment.org/build/sequence/show/5732
Assistment
Build
Assess
Account
Mr. Turing
Assistments
Problem Sets
View Comments
Build › Problem Sets › Addition and Multiplication
Addition and Multiplication
New Copy
Flush cache
Print
Preview
Addition and Mult...
Problem Set Type: Linear
Status: Draft
Settings
Sub-sections and assistments
30389 - Addition Assistment
30390 - Explanation Assistment
30391 - Multiplication Assistment
Preview
Print
Edit
New Section
Add assistments
Internet | Protected Mode: On
100%

In the next section we will describe how to build and edit ASSISTments. This may be helpful if you want to go back after using the quick builder and make changes.

Creating an ASSISTment

Main Problem

- You write a Main Problem. You can input a second Main Problem too.
- Answer:
  - Choose from Fill In, Algebra , Multiple Choice, Ungraded Open Response
  - Each Answer is either Right or Wrong (and can write a message that will be displayed to a student when they type or select a common wrong answer, we call this message a "buggy message")
- Tutoring Strategy(s):
  - Choose from "Hints" or "Scaffold"

Strategy type "Hints"

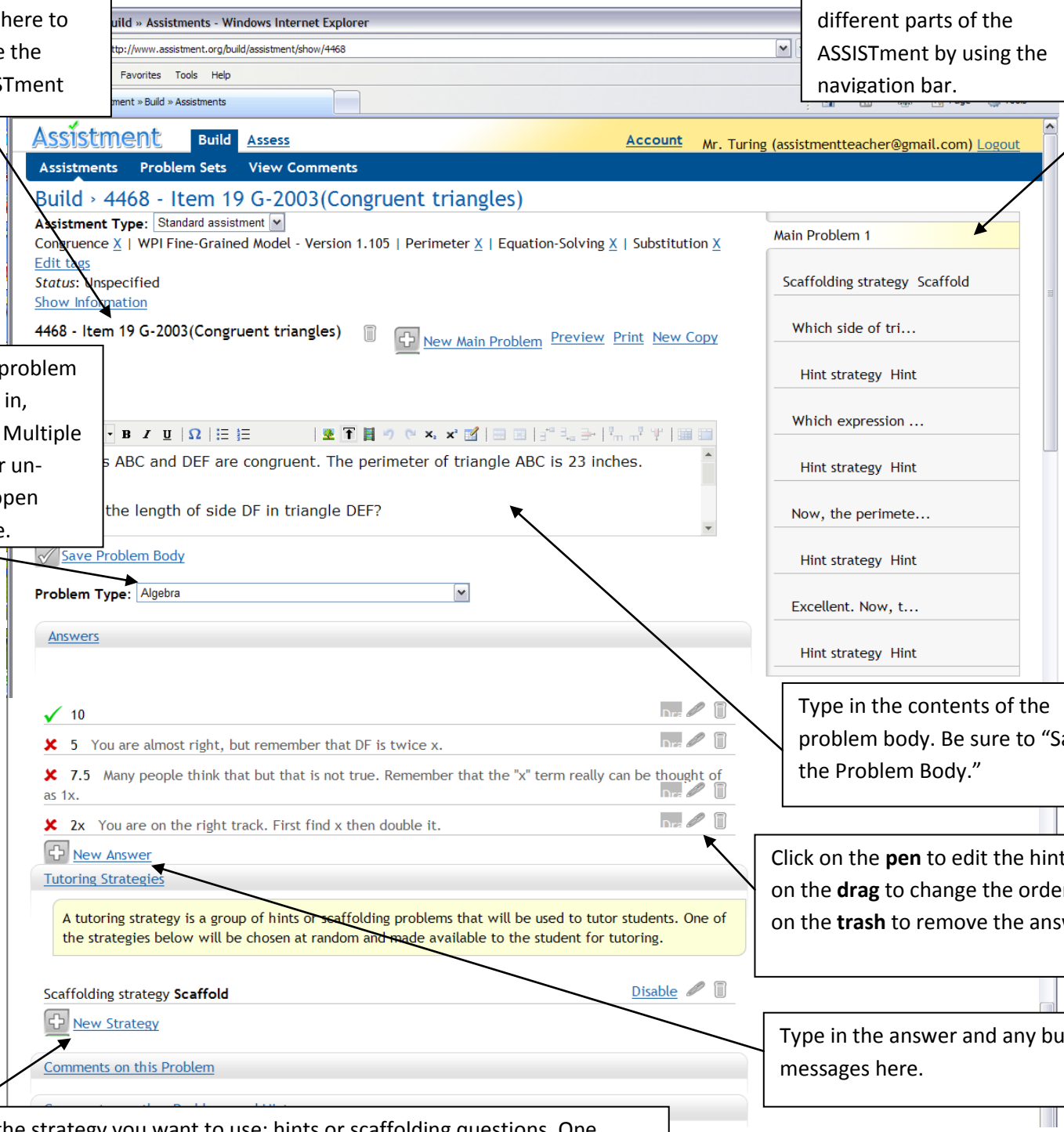
- Add Hints

Strategy type "Scaffold"

You can add multiple scaffold questions

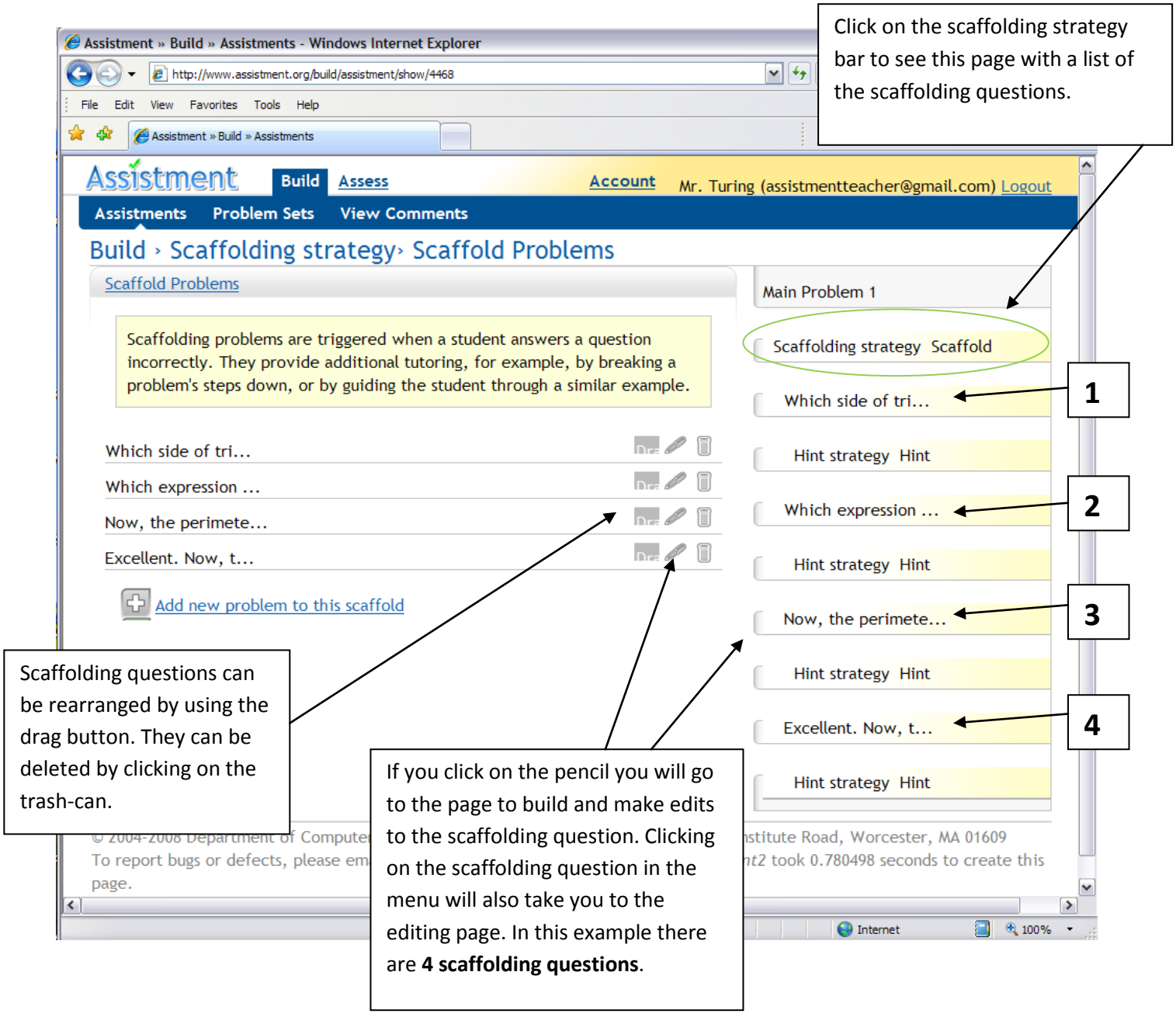
- Question: Just like a regular ASSISTment a scaffolding question starts with a question.
- Answer:
  - Choose from Fill In, Algebra , Multiple Choice, Ungraded Open Response
  - Each Answer is either right or wrong. You can still write a buggy message.
- Tutoring Strategy(s):
  - Choose from Hints (typical choice) or Scaffold (it is not recommended to put a scaffold in a scaffold.)

On the next page you will see an image of the Main Problem page for the two triangles problem # 4468 that we showed earlier in this document. In the following pages you will see how you can move through the builder to build all the different parts of that ASSISTment.


Click here to name the ASSISTment
Keep track of and navigate to different parts of the ASSISTment by using the navigation bar.
Assistment
Build
Assess
Account
Mr. Turing (assistmentteacher@gmail.com) Logout
Assistments
Problem Sets
View Comments
Build › 4468 - Item 19 G-2003(Congruent triangles)
Assistment Type: Standard assistment
Congruence X | WPI Fine-Grained Model - Version 1.105 | Perimeter X | Equation-Solving X | Substitution X
Edit tags
Status: Unspecified
Show Information
4468 - Item 19 G-2003(Congruent triangles)
New Main Problem
Preview
Print
New Copy
Main Problem 1
Scaffolding strategy Scaffold
Which side of tri...
Hint strategy Hint
Which expression ...
Hint strategy Hint
Now, the perimete...
Hint strategy Hint
Excellent. Now, t...
Hint strategy Hint
Select a problem type: Fill in, Algebra, Multiple choice or un-graded open response.
s ABC and DF are congruent. The perimeter of triangle ABC is 23 inches.
the length of side DF in triangle DEF?
Save Problem Body
Problem Type: Algebra
Type in the contents of the problem body. Be sure to “Save the Problem Body.”
Answers
10
5 You are almost right, but remember that DF is twice x.
7.5 Many people think that but that is not true. Remember that the "x" term really can be thought of as 1x.
2x You are on the right track. First find x then double it.
New Answer
Click on the pen to edit the hints. Click on the drag to change the order. Click on the trash to remove the answer.
Tutoring Strategies
A tutoring strategy is a group of hints or scaffolding problems that will be used to tutor students. One of the strategies below will be chosen at random and made available to the student for tutoring.
Scaffolding strategy Scaffold
Disable
New Strategy
Type in the answer and any buggy messages here.
Comments on this Problem
Select the strategy you want to use; hints or scaffolding questions. One ASSISTment can have multiple strategies.
When an ASSISTment has Scaffolding, it is broken down into more specific questions. Each of these questions has hints. Typically the last question is the original question asked over again.
When an ASSISTment uses the hint strategy, the student can either try again or ask or hints when they get the problem wrong.

Editing the Strategy

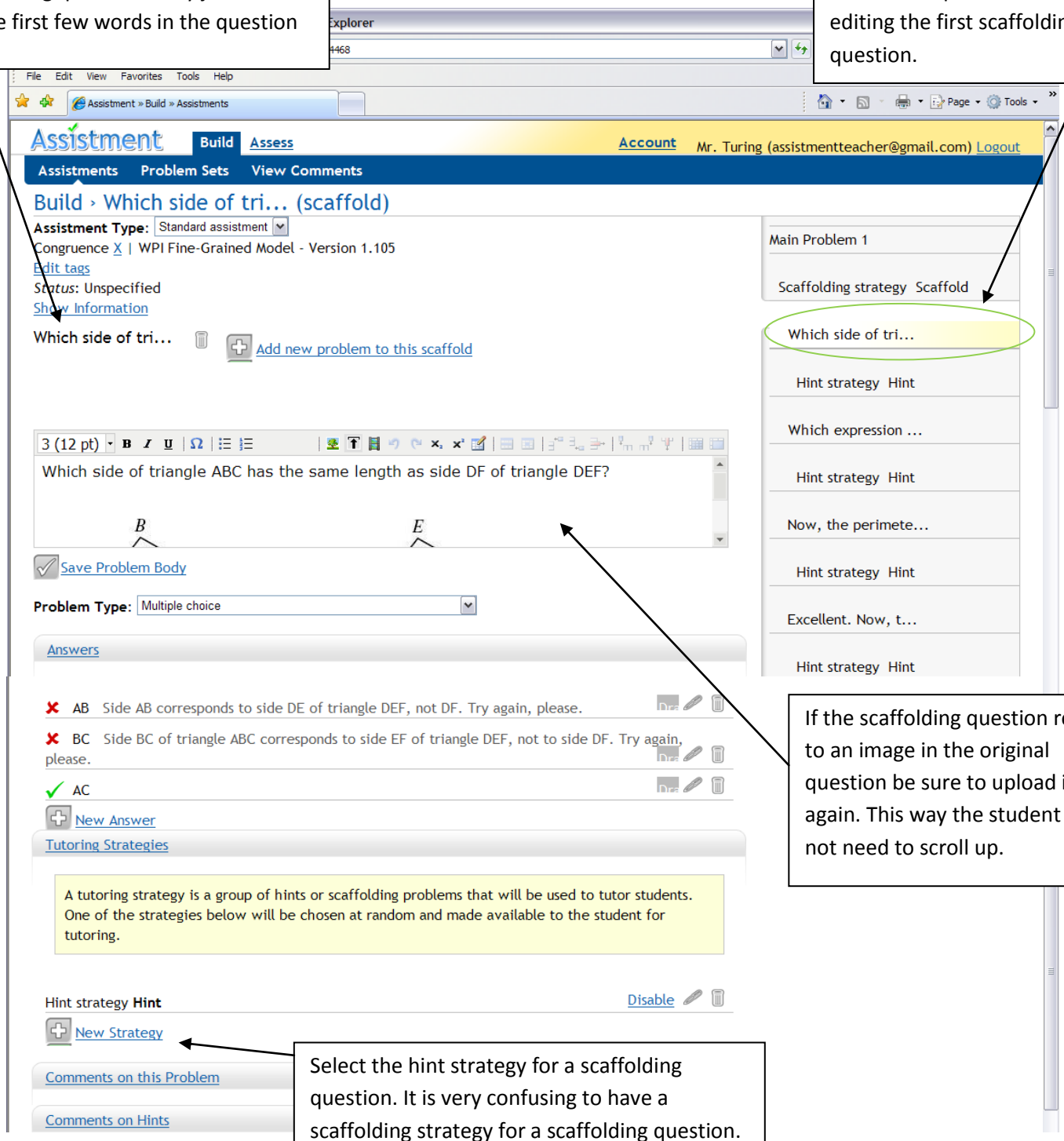
If you choose to have scaffolding questions they will be listed on this page. This page will show when you click on the scaffold strategy button on the menu bar. It will also come up when you initiate a new scaffolding strategy for the main problem. Notice there are 4 scaffolding questions for this ASSISTment and that each has hint strategies.


Click on the scaffolding strategy bar to see this page with a list of the scaffolding questions.
Assistment » Build » Assistments - Windows Internet Explorer
http://www.assistment.org/build/assistment/show/4468
File Edit View Favorites Tools Help
Assistment » Build » Assistments
Assistment
Build
Assess
Account
Mr. Turing (assistmentteacher@gmail.com) Logout
Assistments
Problem Sets
View Comments
Build › Scaffolding strategy› Scaffold Problems
Scaffold Problems
Scaffolding problems are triggered when a student answers a question incorrectly. They provide additional tutoring, for example, by breaking a problem's steps down, or by guiding the student through a similar example.
Which side of tri...
Which expression ...
Now, the perimete...
Excellent. Now, t...
Add new problem to this scaffold
Main Problem 1
Scaffolding strategy Scaffold
Which side of tri...
Hint strategy Hint
Which expression ...
Hint strategy Hint
Now, the perimete...
Hint strategy Hint
Excellent. Now, t...
Hint strategy Hint
1
2
3
4
Scaffolding questions can be rearranged by using the drag button. They can be deleted by clicking on the trash-can.
If you click on the pencil you will go to the page to build and make edits to the scaffolding question. Clicking on the scaffolding question in the menu will also take you to the editing page. In this example there are 4 scaffolding questions.
To report bugs or defects, please em
page.
Internet
100%

Editing a Scaffolding Question

Most people do not name the Scaffolding question. They just leave it as the first few words in the question

In this example we are editing the first scaffolding question.


Assistment
Build
Assess
Account
Mr. Turing (assistmentteacher@gmail.com) Logout
Assistments
Problem Sets
View Comments
Build › Which side of tri... (scaffold)
Assessment Type: Standard assistment
Congruence X | WPI Fine-Grained Model - Version 1.105
Edit tags
Status: Unspecified
Show Information
Which side of tri...
Add new problem to this scaffold
Main Problem 1
Scaffolding strategy Scaffold
Which side of tri...
Hint strategy Hint
Which expression ...
Hint strategy Hint
Now, the perimete...
Hint strategy Hint
Excellent. Now, t...
Hint strategy Hint
Which side of triangle ABC has the same length as side DF of triangle DEF?
B
E
Save Problem Body
Problem Type: Multiple choice
Answers
AB Side AB corresponds to side DE of triangle DEF, not DF. Try again, please.
BC Side BC of triangle ABC corresponds to side EF of triangle DEF, not to side DF. Try again, please.
AC
New Answer
Tutoring Strategies
A tutoring strategy is a group of hints or scaffolding problems that will be used to tutor students. One of the strategies below will be chosen at random and made available to the student for tutoring.
Hint strategy Hint
Disable
New Strategy
Comments on this Problem
Comments on Hints

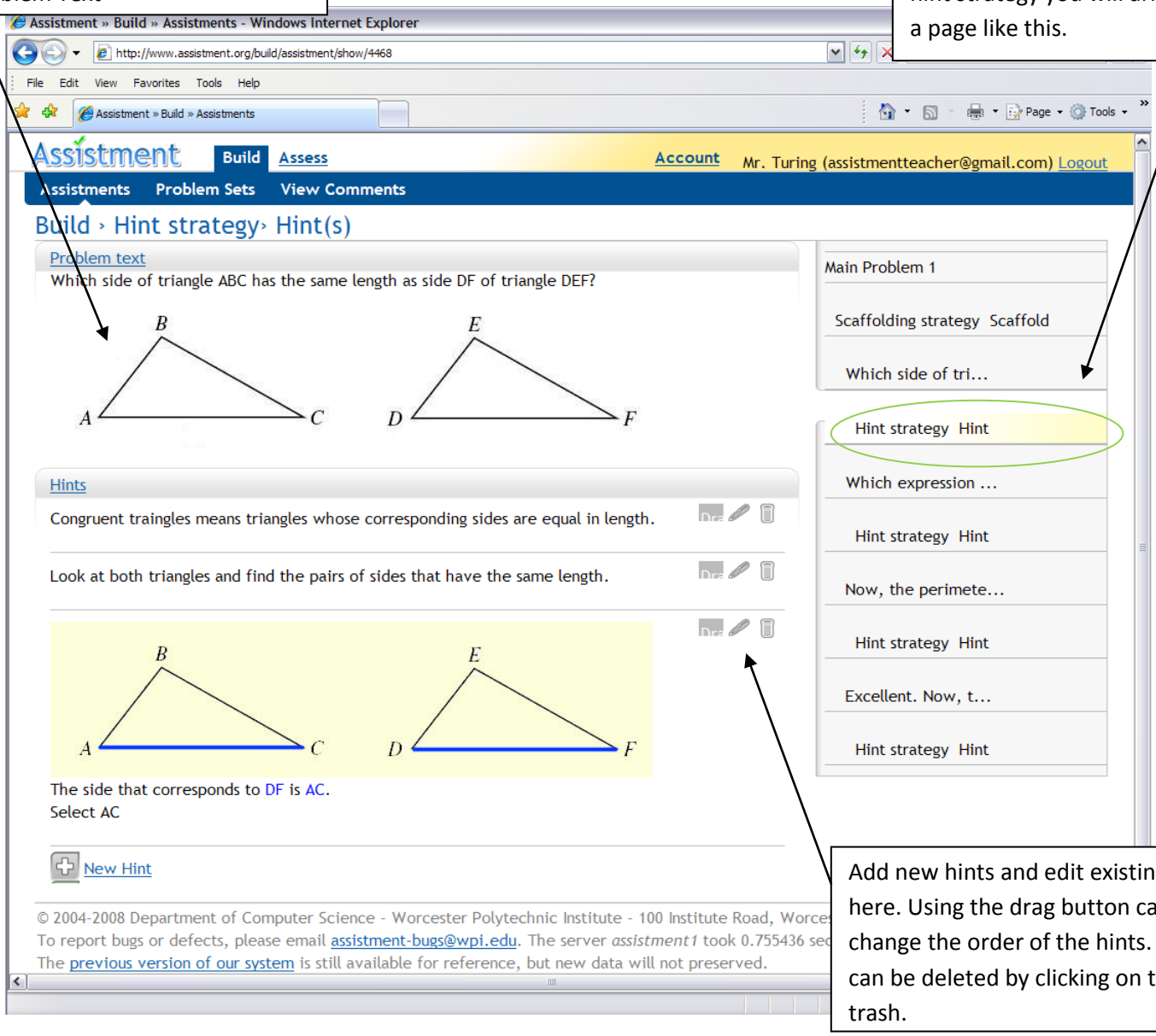
If the scaffolding question refers to an image in the original question be sure to upload it again. This way the student will not need to scroll up.

Select the hint strategy for a scaffolding question. It is very confusing to have a scaffolding strategy for a scaffolding question.

Editing Hints

Preview the scaffolding question's "Problem Text"

If you click on a bar that is a hint strategy you will arrive at a page like this.


Assistment » Build » Assistments - Windows Internet Explorer
http://www.assistment.org/build/assistment/show/4468
File Edit View Favorites Tools Help
Assistment » Build » Assistments
Page Tools
Assistment
Build
Assess
Account
Mr. Turing (assistmentteacher@gmail.com) Logout
Assistments
Problem Sets
View Comments
Build › Hint strategy› Hint(s)
Problem text
Which side of triangle ABC has the same length as side DF of triangle DEF?
B
A
C
E
D
F
Hints
Congruent traingles means triangles whose corresponding sides are equal in length.
Look at both triangles and find the pairs of sides that have the same length.
The side that corresponds to DF is AC.
Select AC
New Hint
Main Problem 1
Scaffolding strategy Scaffold
Which side of tri...
Hint strategy Hint
Which expression ...
Hint strategy Hint
Now, the perimete...
Hint strategy Hint
Excellent. Now, t...
Hint strategy Hint
© 2004-2008 Department of Computer Science - Worcester Polytechnic Institute - 100 Institute Road, Worce
To report bugs or defects, please email assistment-bugs@wpi.edu. The server assistment1 took 0.755436 sec
The previous version of our system is still available for reference, but new data will not preserved.

Add new hints and edit existing hints here. Using the drag button can change the order of the hints. Hints can be deleted by clicking on the trash.

Suggestions for Classroom Use

Ideas from a – 7th Grade Math Teacher in an Urban School xliii
Responding to an Individual Problem in an ASSISTment Problem Set xliii
Teacher Observations and Report xliii
ASSISTment Worksheets xlv
The ASSISTments Correction Worksheet xlv
The ASSISTment Worksheet xlv
Record Sheet xlv

There are many case studies to read from at http://teacherwiki.assistment.org/cases. Here is an example of a real world case.

Ideas from a – 7th Grade Math Teacher in an Urban School

Responding to an Individual Problem in an ASSISTment Problem Set

Overview

1. Students complete a problem set on the computer.
2. Study the item report from the problem set to find one problem to deal with.
3. Discuss the problem in class.

Teacher Observations and Report

Day 1

Today in the lab, my students were practicing 8th grade MCAS problems. I chose a problem set that corresponded with the unit we had just finished. It was nice to know that while they were practicing, they were all getting help from the system when they needed it. When they had all finished the problem set, I printed out the item report and looked for something interesting to bring up in class. I can never cover everything in the item report, but I do like to go over something the next day so the students know I am paying attention to their work and see the connection between class and the ASSISTment lab. Many times, I look for the problem with the lowest number of correct answers, but this time, something else caught my eye. You can see the problem in Figure 1.

ASSISTment number 836
Which is closest to 0.816 * 0.211
A. 0.16
B. 1.6
C. 16
D. 160

Figure 1

Now my students did well on this problem, 72% got it correct and the rest of the students selected 1.6 instead of .16. However, we had been discussing estimation a lot in my class and I know I had a lot of reluctant estimators. This was a class of kids who liked to work it all out and find the exact answer. Since I had just stopped using the ASSISTment worksheets, I wanted to see if I could analyze my students' work. It turned out everyone had done a great job organizing their work and I could easily find their work for ASSISTment 836.

You can see the results of the 18 students in my class who did this problem in Figure 2.

7 students Got the problem correct and used estimation
6 students got the problem correct and worked it all out
5 student selected the incorrect answer of 1.6

Figure 2

Day 2

I know a discussion of using estimation for this problem would help 11 of my students. However, I did not have a lot of time to devote to this topic in class. So I decided to make an overhead of their work and share it with them in class that week. You can see what I showed them and the questions I asked in Figure 3.

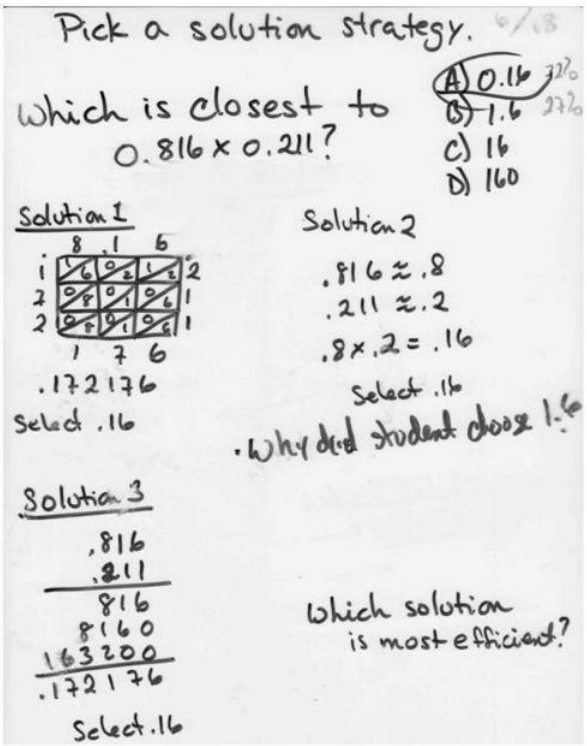


Figure 3

Conclusion

I really liked bringing in the data I find on the ASSISTments to the students. In this exchange, I was able to respond to the work my students did on their paper. This helps them know that I value tidy work. In addressing this problem, I wanted to emphasize that I am not just looking for the right answer, but I also want them to think mathematically in order to make the right choices.

Day 1: Gave MCAS practice

Day 2: Responded quickly in class to something I saw in the item report and on their work.

ASSISTment Worksheets

The following are some very helpful worksheets to use in conjunction with the ASSISTments system.

The ASSISTments Correction Worksheet

The correction worksheet is where students review the problems they got wrong. The student is asked to record the problem set and ASSISTment number to make it easier for the teacher to counter reference poor scores on a certain item with the students' work. The student records why they got the problem wrong and then proceeds to show all the steps necessary to find the correct solution in the spaces provided.

Below is the actual corrections worksheet for you to copy and use and some examples of student work using that worksheet.

The ASSISTment Worksheet

The ASSISTment worksheet is where students can record their work while doing a problem set. They simply write their name, the date, and the name of the problem set in the spaces provided. They can then go through the problem set and record their work for each number in the boxes.

Record Sheet

The record sheet is for recording which problem sets a student has done and their percent correct. This record sheet can be stapled to a folder for the students to keep track of their work. The final column is left blank for teach comments/notes.

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ASSISTment Corrections: **Name**_____

In the space below, complete the sentence started and in the large space provided, record the complete solution to any problem you got wrong on the ASSISTments. Be sure to record the problem set and the ASSISTment number. Continue on notebook paper with the next problems.

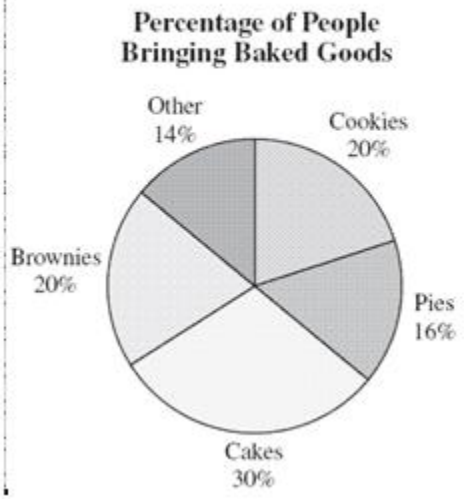
Problem Set:	ASSISTment number:
I got this question wrong because …	
Solution:	

Problem Set:	ASSISTment number:
I got this question wrong because …	
Solution:	

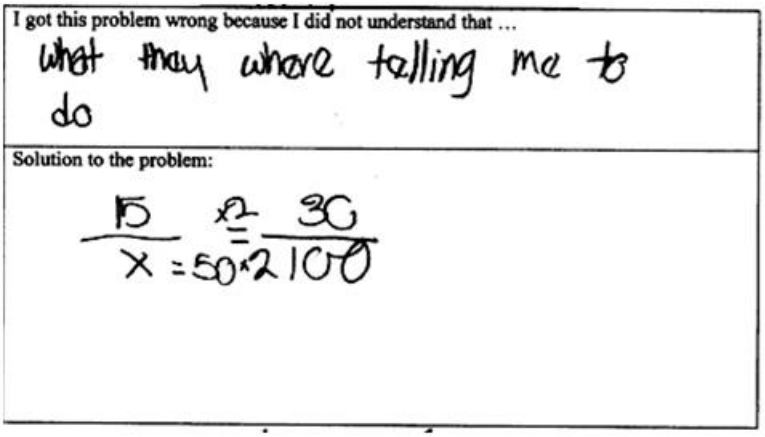
Here are some examples of worksheets filled out by actual students in response to ASSISTment number 27844.

ASSISTment #27844:

The circle graph below shows the percentages of people who brought each type of baked good to sell at a recent bake sale. If 15 people brought cakes to sell, what is the total number of people who brought baked goods to sell?



Example worksheets filled out by students:


I got this problem wrong because I did not understand that ...
what they where telling me to do
Solution to the problem:
15 x2 30
X = 50 x 2 100

I got this problem wrong because I did not understand that ... This problem confused me because I thought it would be 75. since it was 15. I thought 15+75= 100, and I thought 9 it was the answer.

Solution to the problem:

$\frac{15 \times 2}{X \times 2} = \frac{30}{100} = X = 50$

$\frac{Y}{15} = \frac{3}{100}$

$\frac{15 \div 5}{100 \div 5} = \frac{3}{X}$ 20

I got this problem wrong because I did not understand that ... I got this problem wrong because I didn't understand how to find but what is the total number of people.

Solution to the problem:

$\frac{15}{X} = \frac{30}{100}$ $X=50$

$\frac{15 \times 2}{X \times 2} \frac{30}{100} = X = 50$

ASSISTment Worksheet

Student Name_____

Date_____

Problem Set Name_____

Number:_____	Number:_____	Number:_____
Number:_____	Number:_____	Number:_____
Number:_____	Number:_____	Number:_____

Record Sheet

ASSISTment	Score: correct/total = %	Comments